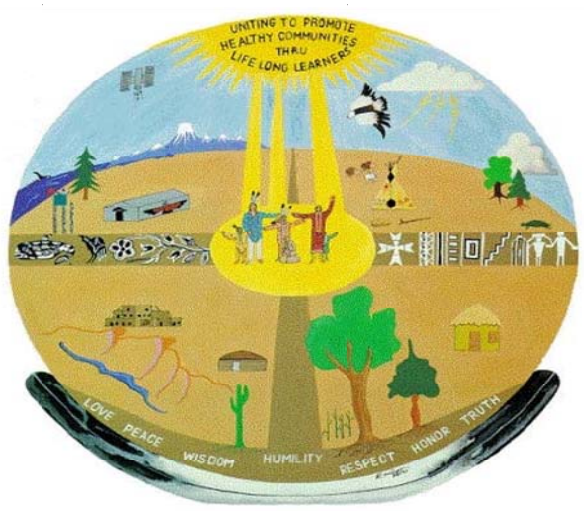
Bureau of Indian Education
Master Technology Plan
2007 - 2010



December 17, 2007

Bureau of Indian Education
US Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

CONTENTS

Acknowledgements

The contributions of these individuals are gratefully acknowledged:

Pat Abeyta, John Ashley, Ken Bailey, Mick Baisden, Gene Barnette, Jacquelyn Cheek, Christine Cho, Mike Farrell, Ben Feigel, Ellen Findley, Al Foster, Joe Herrin, Stan Holder, Mona Infield, Jim Issues, Maureen Lesky, Jim Hastings, Steve King, Peggy Long, Julia Oliver, Albert Rice, Bart Stevens, Brett Stoneberger, David Talayumptewa, Dick Viekman, Gil Wake, Sharon Wells, Tim Wight

FOREWORD

The Department of the Interior and the Bureau of Indian Education (BIE) have launched major new initiatives to provide quality education opportunities from early childhood through life in accordance with the needs of the Tribe's. The employment of technology in education is one area in which significant advances have been made and are planned as described in this BIE Master Technology Plan. Through BIE's new partnership with the Indian Affairs Office of the Chief Information Officer, the scope of the Master Technology Plan has been greatly increased and the anticipated resultant impact for students, teachers, and staff are expected to contribute to our goals of meeting the requirements of the No Child Left Behind Act.

In 2006, we were successful in launching the Native American Student Information system (NASIS), our first major technology initiative since the creation of the Educational Native American Network-II (ENAN-II). During the 2007-2010 timeframe we plan to deploy a unifying BIE web portal, improve communication through the use of web-based collaboration tools, improve support of school infrastructure, and increase training for teachers to improve the use of web-based educational resources.

This is an exciting time for BIE's students, teachers, and staff and we look forward to the challenges ahead.

Kevin Skenandore

Director, Bureau of Indian Education
Indian Affairs

Date

Sanjeev Bhagowalia

Chief Information Officer
Indian Affairs

Date

EXECUTIVE SUMMARY

The Bureau of Indian Education (BIE) Master Technology Plan describes the plans for BIE use of technology to accomplish its education goals as described in the BIE Program Improvement and Accountability Plan (PIAP) and the DOI FY2008 "Improving Quality of Life for Indian Tribes" Initiative. The PIAP explicitly recognizes the value of technology to meeting the BIE's education goals. The plan was jointly produced by the BIE and the Indian Affairs Office of the Chief Information Officer (OCIO).

This Master Technology Plan presents the BIE's high-level plans for employment of technology for the years 2007-2010 for elementary and secondary schools. The Secretary of the Interior, Mr. Dirk Kempthorne, has succinctly stated that "As one of only two federal school systems, our Bureau of Indian Education schools should be models of achieving the goals of the No Child Left Behind Act."

The BIE Master Technology Plan encompasses the use of technology in support of the BIE mission as defined by public law and the US Department of the Interior Departmental Manual and as it relates to the operation of K-12 schools. The plan is applicable to the BIE and the Indian Affairs (IA) Office of the Chief Information Officer (OCIO). The IA OCIO is the Departmental component charged with providing technology services to the BIE.

The BIE supports the Department's strategic goal of serving communities. Through the design and execution of effective education programs, BIE contributes to the development of quality American Indian and Alaska Native communities. Approximately 4,300 full-time and seasonal BIE employees, including teachers, serve American Indian and Alaska Native students at BIE-operated schools located on or near Indian reservations.

The BIE supports education programs and manages residential facilities for Indian students at 184 BIE-funded elementary and secondary schools and dormitories. BIE's elementary and secondary school system spans 23 states serving diverse Indian communities. Schools range in size from eight to more than 1,100 students, representing over 240 Tribes with different cultural backgrounds and on 64 reservations.

1. INTRODUCTION

On August 29, 2006, the US Department of the Interior Departmental Manual (DM), Chapter 130, was signed and approved establishing the Bureau of Indian Education (BIE), which was previously the Office of Indian Education Programs, a part of the Bureau of Indian Affairs (BIA). The Directors of both the BIA and BIE now report directly to the Assistant Secretary of Indian Affairs. The bureaus share executive direction and administrative services. The plan was produced jointly by the BIE and the Indian Affairs Office of the Chief Information Officer (OCIO).

1.1. Purpose

This Master Technology Plan presents the BIE's high-level plans for employment of technology for the years 2007-2010 for elementary and secondary schools. The plan is responsive to the requirements of:

- OMB Circular A-130, Management of Federal Information Resources
- The DOI FY2008 "Improving Quality of Life for Indian Tribes" Initiative
- The BIE Program Improvement and Accountability Plan (PIAP
- The Federal Communications Commission (FCC) eRate Program (see section 8).

1.2. Scope

The BIE Master Technology Plan encompasses the use of technology in support of the BIE mission as defined by public law and the US Department of the Interior Departmental Manual and as it relates to the operation of K-12 schools. The IA OCIO is the Departmental component charged with providing technology services to the BIE.

1.3. Applicability

The BIE Master Technology Plan is applicable to the BIE and to the Indian Affairs OCIO.

1.4. References

- BIE Program Accountability Plan (PIAP). The BIE worked with Tribes and tribal school boards to develop a PIAP to improve the effectiveness of the education services provided in the Bureau-funded school system. The purpose of the PIAP is to structure BIE's approach to meeting its six critical educational objectives.
- Snyder Act of 1921. "The Bureau of Indian Affairs, under the supervision of the Secretary of the Interior, shall direct, supervise, and expend such moneys as Congress may from time to time appropriate, for the benefit, care, and assistance of the Indians throughout the United States for the following purposes: General support and civilization, including education."
- Indian Reorganization Act of 1934. "An Act to conserve and develop Indian lands and resources; to extend to Indians the right to form business and other organizations; to establish a credit system for Indians; to grant certain rights of home rule to Indians; to provide for vocational education for Indians; and for other purposes."
- Indian Self-Determination and Education Act of 1975 (Public Law 93-638). The Indian Self-Determination and Education Assistance Act of 1975 aimed to maximize tribal participation in planning and administration of federal services and programs, and to reduce federal bureaucracy in those programs.
- No Child Left Behind Act (Public Law 107-110). The No Child Left Behind Act of 2001 reauthorized a federal programs with the goal of improving the performance of U.S. primary and secondary schools by increasing the standards of accountability for states, school districts and schools.
- US Department of the Interior Departmental Manual, Part 130, Chapter 8, Bureau of Indian Education

- Office of Management and Budget (OMB) Circular A-130, Management of Federal Information Resources. This Circular establishes policy for the management of Federal information resources and includes procedural and analytic guidelines for implementing specific aspects of these policies.
- Clinger-Cohen Act (CCA) of 1996. The CCA supplements the information resources management policies contained in the Paperwork Reduction Act of 1980 by establishing a comprehensive approach for executive agencies to improve the acquisition and management of their information resources. The CCA provides that the government information technology shop be operated exactly as an efficient and profitable business would be operated and that acquisition, planning and management of technology must be treated as a "capital investment." The CCA also requires agencies to: 1) designate a Chief Information Officer (currently, a senior official) within each executive agency, with appropriate duties relating to information technology acquisition and management, 2) to establish policies and procedures to ensure the integration within such agency of financial and information systems in consultation with the Chief Information Officer and the Chief Financial Officer of such agency, 3) identify any major information technology acquisition program, or phase or increment of such program, that has significantly deviated from its cost, performance, or schedule goals.
- Children's Internet Protection Act (CIPA). The CIPA is a Federal law enacted by Congress in December 2000 to address concerns about access to offensive content over the Internet on school and library computers. CIPA imposes certain types of requirements on any school or library that receives funding support for Internet access or internal connections from the "E-rate" program – a program that makes certain technology more affordable for eligible schools and libraries. In early 2001, the FCC issued rules implementing CIPA.
- Federal Information Security Management Act (FISMA). The Federal Information Security Management Act of 2002 provides a comprehensive framework for ensuring the effectiveness of information security controls over information resources that support Federal operations and assets.
- Privacy Act of 1974, as amended. The Privacy Act of 1974 can generally be characterized as an omnibus "code of fair information practices" that attempts to regulate the collection, maintenance, use, and dissemination of personal information by federal executive branch agencies. The Act's imprecise language, limited legislative history, and somewhat outdated regulatory guidelines have rendered it a difficult statute to decipher and apply.
- Freedom of Information Act (FOIA), as amended. The Freedom of Information Act (FOIA) was enacted in 1966 and generally provides that any person has the right to request access to federal agency records or information. All agencies of the Executive Branch of the United States Government are required to disclose records upon receiving a written request for them, except for those records (or portions of them) that are protected from disclosure by the nine exemptions and three exclusions of the FOIA.
- Department of the Interior (DOI) Policies and Processes. The DOI has implemented policies to implement Federal laws and OMB policies and established additional policies to promote the effective employment of information technology, including enterprise architecture and capital planning.
- Universal Service Administrative Company (USAC) eRate Program. The rules associated with the eRate program are provided at http://www.usac.org. A summary of portion of the rules are provided in Appendix D.

1.5. eRate

Because of the level of poverty or rural location, most BIE-operated schools are candidates for the Federal Communications Commission (FCC) eRate Program. As a result of multiple organizational developments and since the assumption of management of the BIE eRate Program by the Indian Affairs Office of the Chief Information Officer in 1975, BIE has increased its commitment to the eRate Program. This plan was developed with the intention of supporting the BIE-funded schools and, at some point in the future, BIE-sponsored consortium applications. The plan is compliant with USAC's five rules for a technology plan. Section 8 provides more information regarding BIE's use of the eRate program.

1.6. Stakeholders

The BIE is responsible for administering the only national education system for American Indian children and adults. School programs provide for the education of Indian students attending federally funded elementary and secondary schools. BIE operates two colleges and funds an additional 25 colleges that are operated by tribes and tribal organizations. BIE operates out of central offices in Washington, D.C. and Albuquerque, New Mexico and field offices in various locations throughout the United States.

1.7. Definitions

The term "school," unless otherwise specified, is meant to encompass day schools, cooperative schools, grant/contract schools, peripheral dormitories, boarding, and off reservation boarding schools. For the purpose of this document, a school is an educational or residential center operated by or under contract with the BIE offering services to Indian students under the authority of a local school board and the direction of a local school supervisor. A school may be located on more than one physical site.

Day Schools
A day school is a tribally or BIE-operated school that conducts classes during the day but does not offer residential facilities to its students.

Grant/Contract Schools
A grant or contract school is a tribally operated school (other than a public school) that is funded through a grant or contract agreement with the BIE.

Peripheral Dormitories
The BIE operates one peripheral dormitory (Blackfeet Dormitory) and funds 13 peripheral dormitories that are tribally operated. Peripheral dormitories provide a residential program only for those students attending public schools.

Boarding Schools
The BIA funded 67 residential programs servicing students in 53 boarding schools. Boarding schools provide both academic and residential programs.

Off-reservation Boarding Schools
There are four off-reservation boarding schools operated by the BIE. Three of these schools are residential instructional high schools, and one includes grades 4-12. These facilities are available to students who need full time housing.

2. BACKGROUND

Because technology is employed in response to BIE requirements, it is helpful to understand the recent changes at BIE and the numerous activities concerning organizational and educational performance. To help understand some of the drivers affecting technology, this section describes the BIE organization and its schools. School locations, school sizes, and the grades at each school significantly influenced the Master Technology Plan.

2.1. Current Organization

Three major legislative actions helped frame the present structure and mission of the BIE and the BIA since the BIA's initial creation under the Snyder Act of 1921. The Indian Reorganization Act of 1934 introduced the teaching of Indian history and culture into BIA schools. A second major legislative action was the Indian Self-Determination and Education Act of 1975 (Public Law 93-638). This legislation gave authority to the tribes to contract with the BIA in the operation of schools, and to determine education programs for their children. The Education Amendments Act of 1978 (Public Law 95-561) and further technical amendments (Public Law 98-511, 99-89, and 100-297) mandated major changes in BIA-funded schools. These amendments empowered Indian school boards, established direct funding of schools, and provided for local hiring of teachers and staff. In 2001, the No Child Left Behind Act (NCLB) (Public Law 107-110) amended several Indian education laws. It updated the requirements in PL 95-561 and PL 100-297 relative to student achievement and school improvement. It also imposed the requirement that all BIA-funded schools obtain and maintain accreditation status within their respective states. Regulations to implement the law were issued by the Department of the Interior in April 2005. In 2006, the Office of Indian Education Programs (OIEP), under the BIE, was established as a separate bureau, the Bureau of Indian Education (see Figure 1).

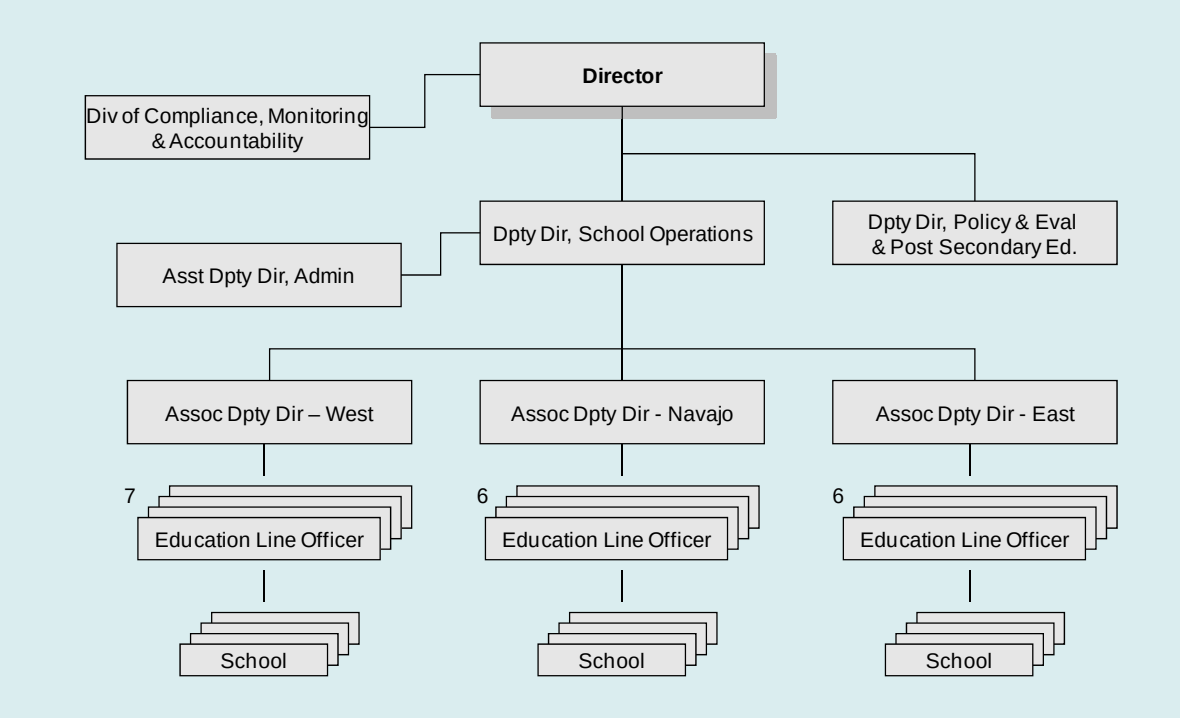


Figure 1. BIE Organizational Structure

2.1.1. Chief - Division of Compliance, Monitoring and Accountability

Its responsibilities include identifying areas needing improvement and developing strategies for technical assistance to improve academic achievement. In order to fulfill the obligations of the BIE as the State Educational Agency (SEA), the division utilizes the requirements and activities within PL 107-110, the No Child Left Behind Act, PL 108-446, the Individuals with Disabilities Education Improvement Act, BIE assessment requirements in the BIE Accountability Work Book, the Program Improvement and Accountability Plan and other related statutory and regulatory requirements.

Through the Division of Compliance, Monitoring, and Accountability (DCMA), BIE collects and analyzes data, and reports on performance outcomes. Specifically, DCMA collects data on metrics related to school operations and effectiveness through on-site audits/inspections, and provides its findings to BIE management and the Department of Education. Analysis of the collected data is performed by BIE, and any recommendations resulting from the analysis are developed in conjunction with tribal leaders. Data and results from the tribal consultations are made available to the public through BIE-maintained web sites. The DCMA also manages the Consolidated School Reform Plan (Section 1114 Plan) mandated by the Department of Education. The Section 1114 Plan requires schools to develop a detailed strategic plan for:

- Instituting challenging curriculum standards and assessment procedures
- Creating better accountability and management
- Implementing benchmarks, timelines, and other monitoring tools.

Each school is required to submit an annual report at the end of each school year in order to identify specific and significant improvements made under the Section 1114 Plan.

2.1.2. Deputy Director - Policy and Evaluation and Post Secondary Education

The Deputy Director - Policy and Evaluation and Post Secondary Education is responsible for planning, research, education legislation review, preparing reports for Congress, and compiling evaluation data of BIE education program operations. The Deputy Director provides management oversight to two federally operated post-secondary schools, twenty-four Tribal Controlled Colleges and Universities, adult education programs and higher education scholarship programs. The office ensures that tribal consultation is conducted on all proposals that would significantly impact Indian education statutes, policies, regulations or procedures.

2.1.3. Associate Deputy Director - Division of Post Secondary Education

The Associate Deputy Director - Division of Post Secondary Education is responsible for developing policies, plans, guidelines, curricula, and standards related to services and activities for adult, career, post-secondary, and tribally controlled college programs. This includes coordinating activities undertaken by BIE post-secondary institutions and providing advocacy for BIE operated and tribally controlled post-secondary institutions in the development of programs for the placement of Indian graduates of post-secondary institutions.

2.1.4. Division of Planning and Research

The Division of Planning and Research is responsible for developing a long-range education planning process from which educational plans, strategies, policies, programs and standards can be derived. In consonance with this planning process, it is responsible for ensuring the development of and use of databases, forecasts, trend analyses and research and for the preparation of long-range educational policy plans to be used as guides in the development and operation of BIE educational programs. The Division of Planning and Research includes:

Branch of Research and Policy Analysis. The Branch is responsible for gathering and analyzing statistical data on program outcomes; planning and conducting research and educational studies; and analyzing BIE policy and practices in relation to research findings of other educational organizations. The branch conducts trends analyses and makes forecasts about BIE delivery systems for use in program management decisions.

Branch of Planning**.** The Branch is responsible for developing the systems, processes, and procedures governing education planning undertaken within BIE. It establishes goals for the development of education philosophies, missions, and regulations. It analyzes the results of research and evaluation activities; develops and recommends alternative courses of priorities for action; and identifies and develops agendas for modifying management, programs, budget formulation activities, practices, procedures and tribal consultation.

2.1.5. Deputy Director - School Operations

The Deputy Director - School Operations directs the development, dissemination, and implementation of standards, policies, and procedures for education programs; monitors all BIE education organizations involved in contracts and grants management; provides leadership, guidance and assistance to Associate Deputy Directors and Education Line Officers; and serves as the liaison for the school facilities and safety programs with the Office of Facilities Management and Construction and the Office of Environmental, Safety and Cultural Resources Management. The Assistant Deputy Director – Administration, Associate Deputy Directors, and Education Line Officers support the Deputy Director for School Operations.

2.1.6. Assistant Deputy Director - Administration

The Assistant Deputy Director - Administration implements Indian Affairs Office of the Chief Financial Officer budget policies, procedures, processes and systems needed to execute all fiscal and accounting functions for education programs and schools with assistance from the following:

Division staff administer all education contracts/grants under the provision of PL 93-638 and other Federal statutes.

Development, coordination, administration, and evaluation of BIE personnel management programs and policies are provided by the Office of Human Capital Management in the Office of the Assistant Secretary - Indian Affairs.

Staff assistance is also provided in planning, development, and coordination of policies, guidelines, procedures, and standards to administer BIE programs and functions. The office implements new and revised education policies and reviews policies prepared by others.

Division of Operations and Maintenance serves as liaison for school construction and coordinates construction requirements and priorities with the Office of Facilities Management and Construction (OFMC). The Division also provides oversight for the school facility operation and maintenance programs.

2.1.7. Associate Deputy Directors

The Deputy Director - School Operations is assisted by three (3) Associate Deputy Directors: Associate Deputy Director - West, Associate Deputy Director - Navajo, and Associate Deputy Director - East. The Associate Deputy Directors serve as Federal Grants Officers; supervise Education Line Officers; and provide technical assistance and oversight to federally recognized tribes or tribal organizations that operate schools and peripheral dormitories under grants administered by the BIE.

2.1.8. Education Line Officers (ELOs)

The ELOs report to an Associate Deputy Director in one of three field locations (West, Navajo or East). Each Education Line Officer serves as a principal officer and chief education administrator for a field education office. They supervise and provide technical assistance to BIE operated elementary and secondary schools, peripheral dormitories and other education programs in the areas of school operations and facilities management. The ELOs also provide instructional leadership, direction, management, administration and oversight in the operation of all BIE education programs designed for American Indian/Alaska Native and other eligible students attending elementary, secondary and dormitory based schools.

2.2. BIE-Funded Schools

There are 184 BIE-funded schools, 60 of which are BIE-operated schools, located in 23 states.

2.2.1. BIE-Operated School Locations

The BIE-operated schools are located in nine states, all west of the Mississippi River (see Figure 2). With the exception of eighteen schools, the BIE-operated schools are located in the Four Corners area. The Four Corners area contains 42 schools with 62% of BIE-operated schools. The schools are in an area roughly 300 miles east to west and 100 miles north to south. Figure 3 shows the locations of these schools. Because of the scale of the map and the proximity of some schools, one to three schools may be represented by a single dot.

2.2.2. BIE-Funded Tribally-Operated School Locations

Figure 4 shows the locations of the BIE-funded tribally-operated schools.

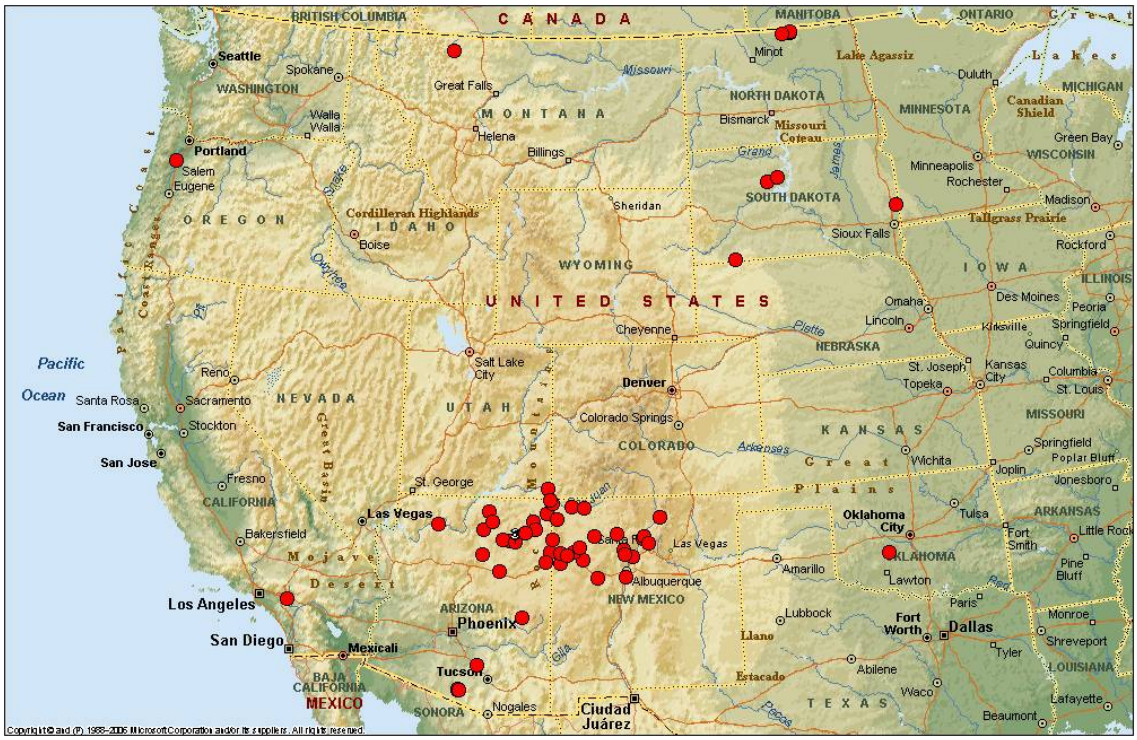


Figure 2. BIE-Operated Schools

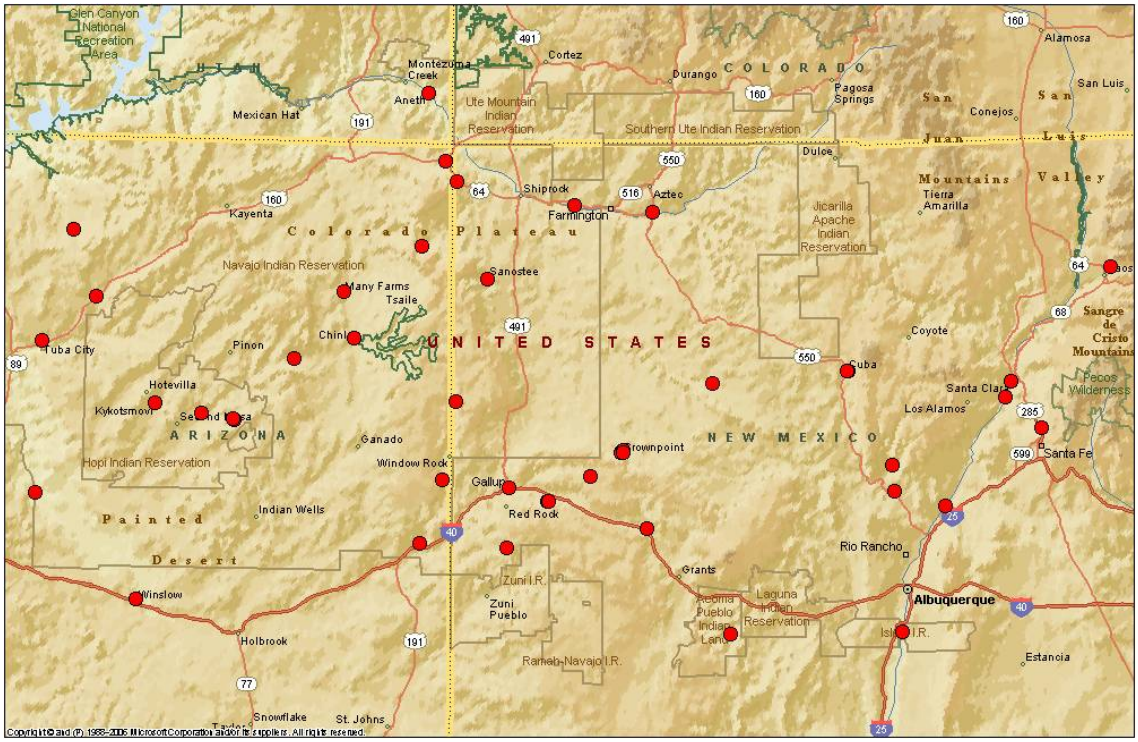


Figure 3. BIE-Operated Schools in the Four Corners Area

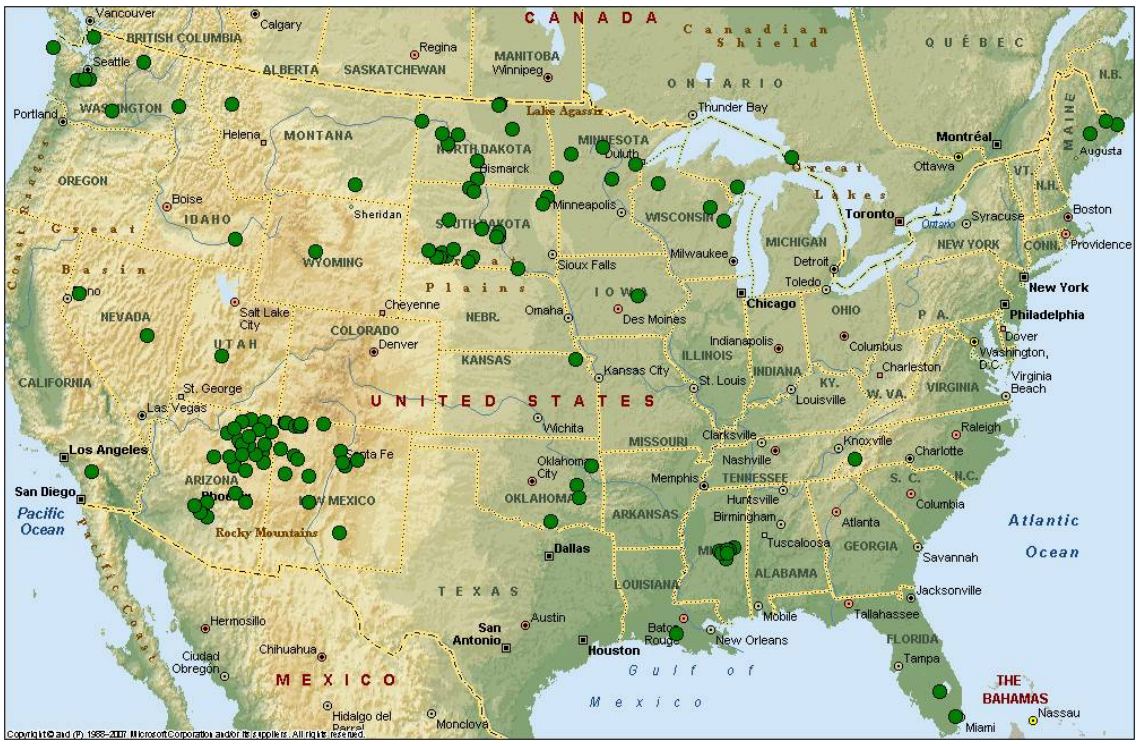


Figure 4. Tribally–Operated Schools

2.2.3. BIE-Operated School Characteristics

Technology solutions for BIE-operated schools are based on a variety of school characteristics, including school locations, school student and staff counts, and grades taught at each schools. The BIE-operated schools are located in New Mexico, Arizona, Oklahoma, Oregon, California, North Dakota, South Dakota, Utah, and Montana. The combined student counts for the schools, by grade, are illustrated below. There are a total of 18,466 students and a total of 3,768 BIE employees at the BIE-operated schools (NOTE: these numbers are from school year 06-07).

The following figures illustrate student count by grade (Figure 5), overall percentage of students in each grade (Figure 6), percentage of students in each grade (Figure 7), number of schools with each grade (Figure 8), and number of schools based on student population ranges (Figure 8).

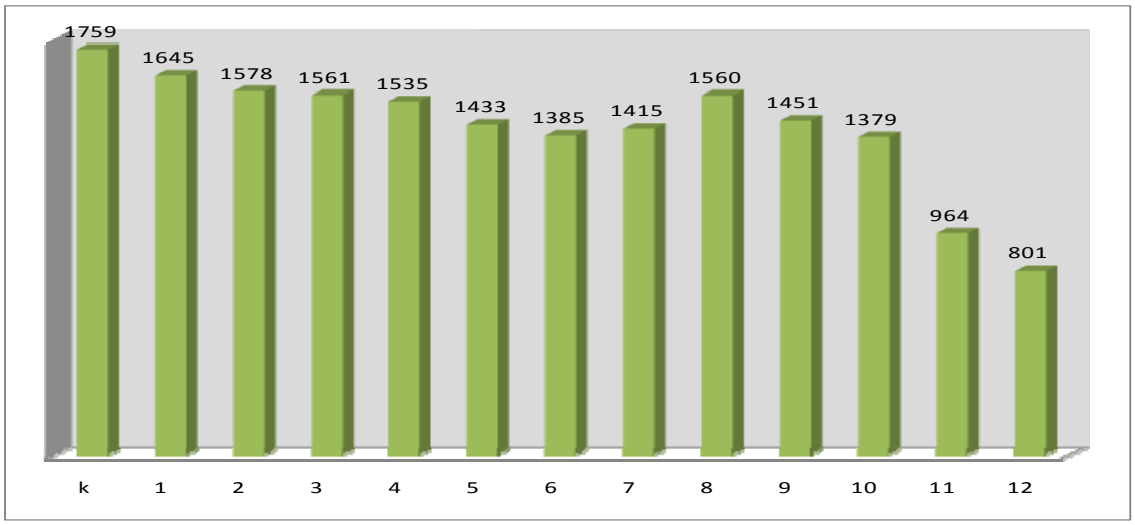


Figure 5. BIE-Operated Schools Student Count by Grade

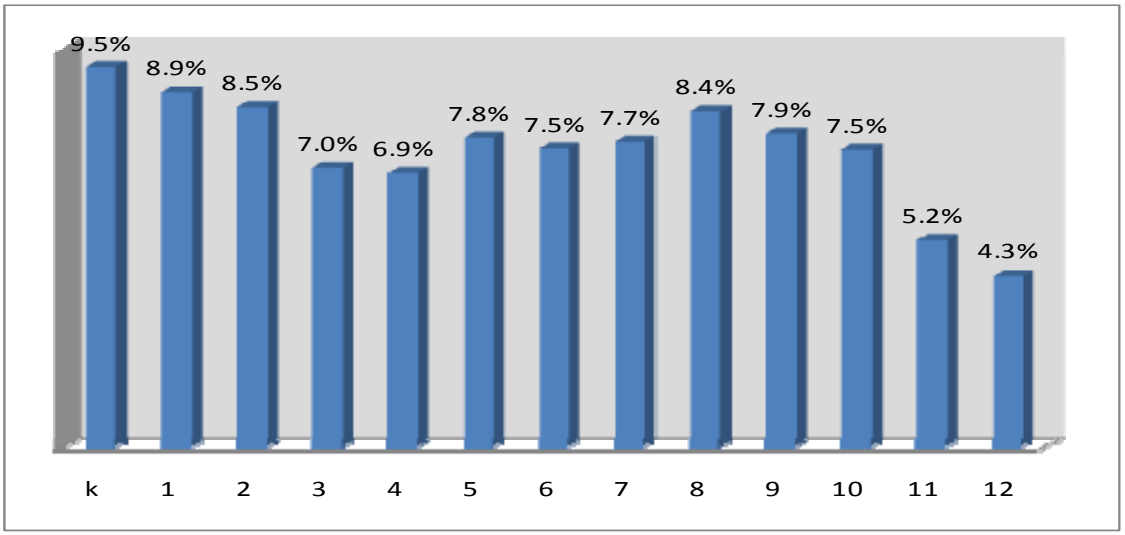


Figure 6. Percentage of Students in Each Grade

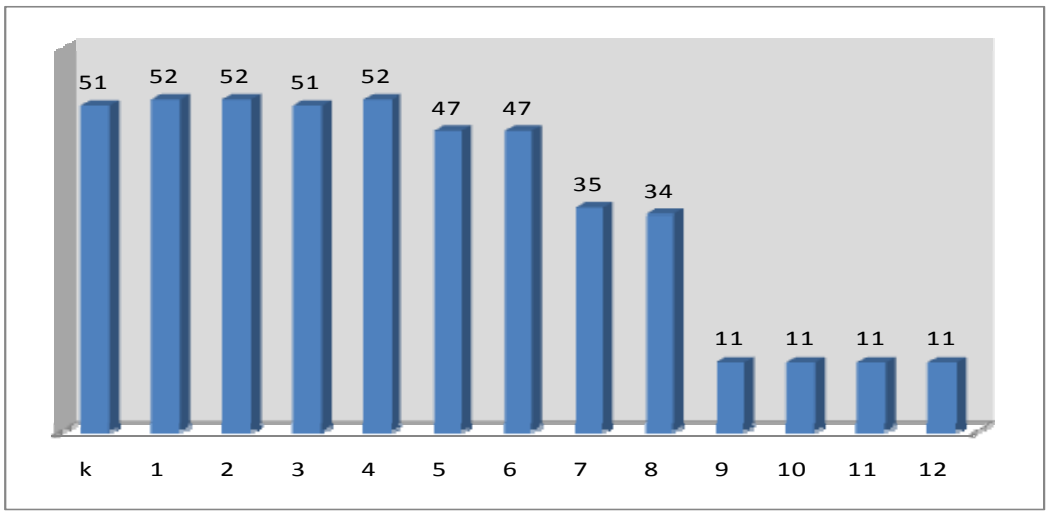


Figure 7. Number of Schools with Each Grade

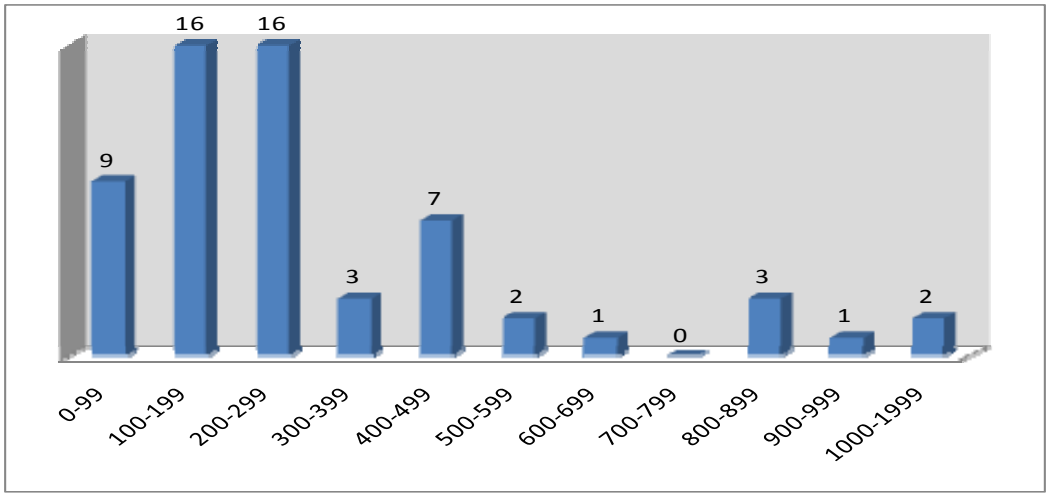


Figure 8. Number of Schools Based on Student Population

The data reveals these major characteristics for BIE-operated schools:

- The preponderance of schools have grades K-7 and approximately 80% of all schools have grades K-8.
- Approximately 72% of the total student population is in grades K-8.
- There are 11 schools with grades 9-12.
- 52% of the schools have between 100 – 300 students; 15% of the schools have less than 100 students.

Using a conventional model for computer usage for elementary and secondary schools, it can be assumed that there is very light technology needs (quantity of computers and intensity of usage) in grades K-3, light usage of technology in grades 4-5, modest usage of technology in grades 6-8, and heavy usage of technology in grades 9-12. The number of schools in each of these categories is:

- K-3 = 52 schools
- 4-5 = 52 schools with grade 4 and 47 schools with grade 5
- 6-8 = 47 schools with grade 6, 35 schools with grade 7, and 34 schools with grade 8
- 9-12 = 11 schools

The 11 schools with grades 9-12 are high technology consumers. The 35 schools with only grades 6-8 and grades K-8 are the next highest technology consumers. The remaining 15 schools with grades K-5, and, on occasion, grade 6 are the next highest technology consumers.

2.2.4. School Population Including Staff

Because school staff use information technology, and the size of the staff can be significant, data is presented here that includes student and staff counts. To account for the sizeable portion of school staff that do not use computers at all, or regularly, this analysis assumes 60% of the school staff are regular computer users. "Regular" is used to connote that an individual has a dedicated computer. As shown below, adding the student staff does not appreciably change the student-only data wherein two-thirds of the schools have total populations of less than 300.

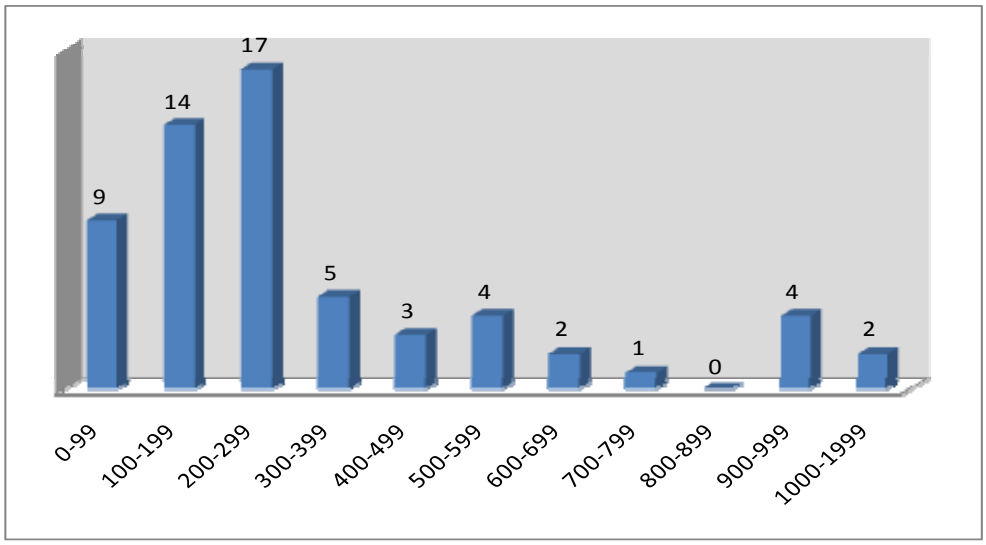


Figure 9. Number of Schools Based on Staff and Student Population Ranges

2.3. Leadership and Management Initiatives

In 2006, a comprehensive review of the BIE education system concluded that several changes must be made in order to improve the effectiveness of the education services and programs provided in the BIE-funded school system and to meet the goals of the NCLB Act. The study concluded that a lack of consistent leadership and a functional management structure contributed to weak organizational and education performance, and that action was needed in these areas:

- Improved management structure
- Educational leadership and instructional management
- Road Map - Program Improvement and Accountability Plan (PIAP)
- Role of Division of Compliance, Monitoring and Accountability (DCMA).

2.3.1. Improved Management Structure

The overall objective of the Improved Management Structure Initiative was to change the current organizational structure to reflect today's educational policies and the critical emphasis on improving student academic achievement, to reduce the span of control at the Director and Deputy Director level, and to improve accountability. The improved management structure increases and elevates the senior management positions to: (1) improve accountability; (2) improve the span of control at the Director and Deputy Director level; (3) separate the administrative and instructional leadership responsibilities; (4) provide delineation of PL 100-297 and PL 95-

561 as amended by PL 107-110, Management Authorities; and (5) align the organization to meet state requirements for achieving Adequate Yearly Progress (AYP).

2.3.2. Educational Leadership and Instructional Management

The improved management structure synchronizes the operational program functions of BIE. It refocuses attention on the importance of instructional leadership and addresses the span of control at the Director and Deputy Director level. Also addressed is the accountability in the field offices by adding Education Specialists to serve as additional resources. Education Specialists will provide more guidance in instruction aligned with curriculum, state content standards and assessments, and ELOs will be able to focus their efforts on instructional leadership, which is paramount to addressing student achievement and meeting AYP requirements in the NCLBA.

2.3.3. Road Map – Program Improvement and Accountability Plan (PIAP)

In response to changing management responsibilities, the BIE worked with Tribes and tribal school boards to develop a PIAP to improve the effectiveness of the education services provided in the Bureau-funded school system. The purpose of the PIAP is to structure BIE's approach to meeting its six critical educational objectives:

- Achieve Adequate Yearly Progress at all BIE-funded schools
- Ensure safe and secure schools
- Provide free appropriate public education for all eligible students
- Improve administrative, organizational and management capability
- Improve program and financial accountability
- Improve communication.

This plan is designed to guide the BIE at each level: the schools, the education line offices, and the national offices. Every ELO has completed a subsidiary PIAP for their agency office. Each administrator of a Bureau-operated school has completed a school PIAP as well. All these plans are inter-linked to ensure completion on all project activities at all three levels.

BIE is committed to greatly improving its success rate in meeting the milestones listed in the PIAP. BIE is also committed to improving communication on the PIAP and to making it its central guiding document. Finally, the goals used in the Government Performance and Results Act (GPRA) process and the Department's Strategic Plan are being realigned with the PIAP. The PIAP also includes incorporation of technology as a tool in the everyday life of a school and emphasizes the need for highly qualified and well-trained teachers, principals, and para-professionals.

2.3.4. Role of the Division of Compliance, Monitoring and Accountability

Since this initiative was undertaken, the name of the Division of Compliance, Monitoring, and Accountability (DCMA) has been changed to the Performance and Accountability Division (PAD). The PAD functions in the role of the SEA providing technical support to Bureau-funded schools as required by PL 107-110, "No Child Left Behind Act" and the reauthorization of PL 108-446, The Individuals with Disabilities Education Improvement Act (IDEA).

With the reauthorization of the Elementary and Secondary Education Act (ESEA), the focus changed from not only holding schools and states accountable for the programs provided to high poverty students, but to also holding schools accountable for the these students' academic gains. In reauthorization of ESEA in 2001, the "No Child Left Behind Act" emphasized accountability for results in improving the academic success of students served by these programs. The statute required schools receiving Title I funds to achieve AYP targets toward the goal of all students achieving academic proficiency in reading and mathematics by school year 2013-2014. Under the statute, a school achievement of its AYP targets is based primarily on student assessment results broken out by race and ethnicity, poverty, disability status, and limited English proficiency status.

The statute has also established the mandatory integration of “scientifically researched based” instructional strategies and challenging academic content into the design of school-wide plans that are focused upon specific targets in the school environment that will directly result in student academic achievement. BIE has established guidelines that require schools in school improvement, corrective action, or restructuring status to develop improvement plans to address specific causes for a school’s low performance. The statute requires the SEAs to review and approve a plan for all schools in their respective State’s jurisdiction. PAD will conduct this process.

2.4. AYP and General Educational Performance

The BIE's school system is designed to meet the Federal government's commitment to "leave no child behind" and provide for the education of the American Indian/Alaskan Native children as called for in numerous treaties, court decisions, and legislation. Achieving AYP is one of the cornerstones of the Federal NCLB. In FY 2005, the BIE implemented several provisions required in the NCLB that were developed through a successfully negotiated rulemaking process in 2004 with Indian tribal leaders. One of these provisions addresses AYP standards for student achievement. Consensus was reached that BIE schools would use the same AYP standards as the state within which they are located. Application of this methodology allows BIE to track student academic proficiency in each of the BIE-funded elementary and secondary schools relative to local public school performance.

In School Year 2004-05, thirty percent BIE-funded academic schools met AYP. BIE reviewed the findings of several Inspector General and Government Accountability Office reports on program performance and fiscal accountability, held discussions with the Department of Education, and consulted principals and school staff to identify key risk areas to be addressed to improve school performance. One of the major risks identified is lack of consistent BIE leadership and a functional management structure. To foster improved performance, BIE developed a strategic plan to improve the effectiveness of the education services provided in its school system and to address the identified key risks.

In 2006, BIE proposed further restructuring of its organization to more effectively lead the school system, expand professional management capacity, and offer dedicated data, contract, and finance specialists to serve the system consistently nationwide. The final organizational structure will result in a strategically managed organization capable of improving academic outcomes and program administration. The implementation of the improved management structure will be ongoing in FY 2008.

To improve this percentage, the DOI Indian Education Initiative supports targeted intensive educational assistance to BIE-funded schools not achieving AYP goals. The Initiative also proposes additional funding for education program management, student transportation, and information technology with the target of achieving AYP goals at 80 percent of BIE-funded schools by 2013 and 100 percent by 2014.

2.5. Professional Development

The most important success factor for student learning is teacher quality. Professional development is the key for increasing teacher quality and the transformational use of technology. A professional development process has been instituted to ensure that technology is used effectively to create new opportunities for learning and to promote student achievement. Through professional development, educators have become proficient at integrating educational technology into curriculum, aligning it with student learning goals/ standards, and using educational technology as a tool for engaged learning projects.

Professional development for educational technology is viewed to be a critical and integrated part of local school technology plans. Professional development programs for teachers are:

- Ongoing
- Tied to curriculum standards
- Designed with built-in evaluation
- Sustained by adequate financial and staff support.

The professional development program includes educational components such as

- Hands-on technology use
- A variety of learning experiences
- Curriculum-specific applications
- New roles for students and teachers
- Collaborative learning.

The continuum of progress from entry to adaptation, to transformation with regard to the essential condition of Professional Development Programs is critical to the success of using Technology for education.

Progress in the following three broad indicators of success is measured:

- Professional development content
- Professional development process
- The sustainability of the professional education development program.

3. MISSION, VISION, AND GOALS

"As one of only two federal school systems, our Bureau of Indian Education schools should be models of achieving the goals of the No Child Left Behind Act . . . yet, just 30 percent of our schools are meeting these goals. We must change course so Indian children receive the education they deserve."

Dirk Kempthorne, Secretary of the Interior

3.1. BIE Mission, Vision, and Goals

3.1.1. Mission

The BIE supports the Department's strategic goal of serving communities. Through the design and execution of effective education programs, BIE contributes to the development of quality American Indian and Alaska Native communities. Approximately 4,300 full-time and seasonal BIE employees, including teachers, serve American Indian and Alaska Native students at BIE-operated schools located on or near Indian reservations. In administering its educational programs, BIE is cognizant of the diverse tribal cultures and their desire for economically viable communities and recognizes the Tribes as distinct government entities.

The BIE supports education programs and manages residential facilities for Indian students at 184 BIE-funded elementary and secondary schools and dormitories. BIE's elementary and secondary school system spans 23 states serving diverse Indian communities. Schools range in size from 8 to more than 1,100 students, representing over 240 Tribes on 64 reservations.

3.1.2. Vision

As one of only two federal school systems, our Bureau of Indian Education schools should be models of achieving the goals of the NCLB Act.

3.1.3. Goals

Achieving AYP requires all schools receiving funding under the NCLB to meet standards in four criteria: test participation (mathematics and reading/language arts), academic performance (mathematics and reading/language arts), graduation rate, and attendance. The number of BIE-funded schools achieving AYP in SY 2005-2006 increased from 47 to 51. In SY 2007-2008, BIE expects a minimum of a four percent increase in schools making AYP.

NCLB requires that all schools achieve AYP by 2014. In order to meet this goal, a minimum of four percent additional BIE- funded schools will need to achieve AYP each year. It is anticipated that a higher percentage of schools will achieve AYP as BIE approaches 2014.

The goal is for 80 percent of BIE-funded schools to meet AYP goals by 2013 and 100 percent of the schools to meet the goals by 2014.

3.2. Technology Mission, Vision, and Goals

3.2.1. Mission

BIE seeks to create a high-performing educational environment in which students excel, teachers have the resources that they need, and that compares favorably with performance metrics for other large school districts. It is recognized that this is a significant challenge, but it is believed that through improved management of resources, empowering staff to accomplish their jobs, and seeking seeking resources, that significant gains can be made in addressing areas needing improvement.

3.2.2. Vision

The technology vision, as illustrated in Figure 10, is based on the Program Improvement and Accountability Plan, the DOI "Improving Quality of Life for Indian Tribes" Initiative, the US Department of Education's National Education Technology Plan, and the National Education Technology Standards published by the International Society for Technology in Education (ISTE).

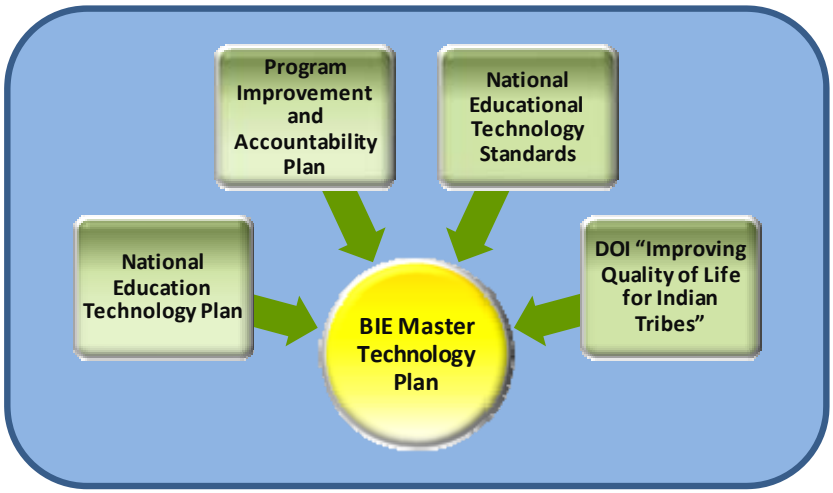


Figure 10. Foundations of Technology Vision and Goals

The US Department of Education has strongly emphasized using technology to educate the children of the United States and has presented its position in the Department of Education National Technology Plan. The US Congress has also expressed its belief in using technology to help students and teachers through the Title lld program, also known as the Enhancing Education Through Technology Program. A draft proposal to continue funding for the Title lld program has been presented to the US Congress that continues funding of the program and places increased emphasis on the use of technology to help students and teachers in economically disadvantaged environments.

The BIE embraces the use of technology to help economically disadvantaged schools because BIE views technology as one of the tools that can help its schools overcome some of the challenges they face, such as:

- Many BIE-funded schools are in geographically remote areas that make it difficult to hire school staff
- Many students live in areas where broadband Internet connections are not available or where school Internet connections need improvement
- A small number of BIE-funded schools must rely on satellite connections for access to the Internet

3.2.3. Goals

To achieve the BIE vision and goals, these technology oriented goals have been established:

- Students and teachers have the technology that they need to accomplish their educational goals
- BIE-funded schools have technology comparable to other high performing school systems
- Because of the remote geographical location of many BIE schools, technology is essential to putting BIE schools on the same educational plane as most other schools in the United States.
- Schools should be able to focus on the business of education and should not have to devote very limited resources to supporting the tools and technology.
- That it should be cost effective and, preferably, produce measurable results. BIE believes that technology is a powerful tool and that it should be applied as warranted.
- That it should be extensible and enable migration to future solutions that are better.

- Standardization of solutions reduces operating costs and improves the end-user's experience.
- Most importantly, that technology should be transparent to the end-user - the student, teacher, and the administrator.
- Information technology should be delivered consistent with industry best practices.

3.2.4. National Educational Technology Standards

The International Society for Technology in Education has developed a set of technology standards (Figure 11) for students that are utilized by the BIE-funded schools as well as many other school systems in the United States. These standards are applied to activities by grades as illustrated in Figure 12. The parenthetical numbers correspond to the standards above.

3.2.5. Performance Metrics

Performance measures used to assess the delivery of IT services to BIE are shown in Table 1.

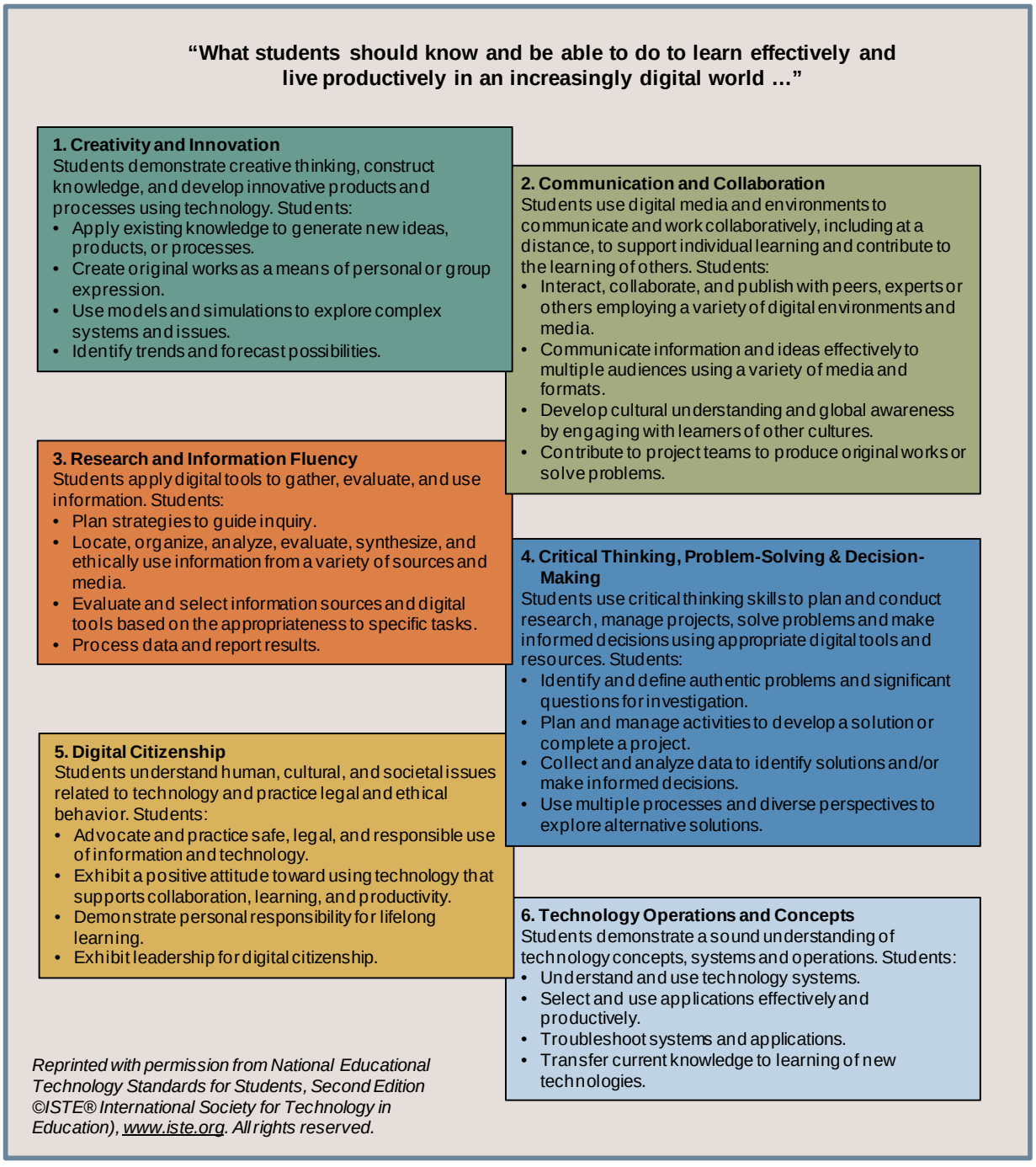


Figure 11. National Educational Technology Standards for Students: The Next Generation

The following experiences with technology and digital resources are examples of learning activities in which students might engage during:

Grades PK-4 (ages 4-8)

- Illustrate and communicate original ideas and stories using digital tools and media-rich resources. (1, 2)
- Identify, research, and collect data on an environmental issue using digital resources and propose a developmentally appropriate solution. (1, 3, 4)
- Engage in learning activities with learners from multiple cultures through e-mail and other electronic means. (2, 6)
- In a collaborative work group, use a variety of technologies to produce a digital presentation or product in a curriculum area. (1, 2, 6)
- Find and evaluate information related to a current or historical person or event using digital resources. (3)
- Use simulations and graphical organizers to explore and depict patterns of growth such as the life cycles of plants and animals. (1, 3, 4)
- Demonstrate the safe and cooperative use of technology. (5)
- Independently apply digital tools and resources to address a variety of tasks and problems. (4, 6)
- Communicate about technology using developmentally appropriate and accurate terminology. (6)
- Demonstrate the ability to navigate in virtual environments such as electronic books, simulation software, and Web sites. (6)

Grades 3-5 (ages 8-11)

- Produce a media-rich digital story about a significant local event based on first-person interviews. (1, 2, 3, 4)
- Use digital-imaging technology to modify or create works of art for use in a digital presentation. (1, 2, 6)
- Recognize bias in digital resources while researching an environmental issue with guidance from the teacher. (3, 4)
- Select and apply digital tools to collect, organize, and analyze data to evaluate theories or test hypotheses. (3, 4, 6)
- Identify and investigate a global issue and generate possible solutions using digital tools and resources. (3, 4)
- Conduct science experiments using digital instruments and measurement devices. (4, 6)
- Conceptualize, guide, and manage individual or group learning projects using digital planning tools with teacher support. (4, 6)
- Practice injury prevention by applying a variety of ergonomic strategies when using technology. (5)
- Debate the effect of existing and emerging technologies on individuals, society, and the global community. (5, 6)
- Apply previous knowledge of digital technology operations to analyze and solve current hardware and software problems. (4, 6)

Grades 6-8 (ages 11-14)

- Describe and illustrate a content-related concept or process using a model, simulation, or concept-mapping software. (1, 2)
- Create original animations or videos documenting school, community, or local events. (1, 2, 6)
- Gather data, examine patterns, and apply information for decision making using digital tools and resources. (1, 4)
- Participate in a cooperative learning project in an online learning community. (2)
- Evaluate digital resources to determine the credibility of the author and publisher and the timeliness and accuracy of the content. (3)
- Employ data-collection technology such as probes, handheld devices, and geographic mapping systems to gather, view, analyze, and report results for content-related problems. (3, 4, 6)
- Select and use the appropriate tools and digital resources to accomplish a variety of tasks and to solve problems. (3, 4, 6)
- Use collaborative electronic authoring tools to explore common curriculum content from multicultural perspectives with other learners. (2, 3, 4, 5)
- Integrate a variety of file types to create and illustrate a document or presentation. (1, 6)
- Independently develop and apply strategies for identifying and solving routine hardware and software problems. (4, 6)

Grades 9-12 (ages 14-18)

- Design, develop, and test a digital learning game to demonstrate knowledge and skills related to curriculum content. (1, 4)
- Create and publish an online art gallery with examples and commentary that demonstrate an understanding of different historical periods, cultures, and countries. (1, 2)
- Select digital tools or resources to use for a real-world task and justify the selection based on their efficiency and effectiveness. (3, 6)
- Employ curriculum-specific simulations to practice critical-thinking processes. (1, 4)
- Identify a complex global issue, develop a systematic plan of investigation, and present innovative sustainable solutions. (1, 2, 3, 4)
- Analyze the capabilities and limitations of current and emerging technology resources and assess their potential to address personal, social, lifelong learning, and career needs. (4, 5, 6)
- Design a Web site that meets accessibility requirements. (1, 5)
- Model legal and ethical behaviors when using information and technology by properly selecting, acquiring, and citing resources. (3, 5)
- Create media-rich presentations for other students on the appropriate and ethical use of digital tools and resources. (1, 5)
- Configure and troubleshoot hardware, software, and network systems to optimize their use for learning and productivity. (4, 6)

Figure 12. Standards Applied to Activities by Grades

Table 1. IT Performance Measures

Area	Organization	Performance Measure
Internal Processes	Systems	Oracle Critical Alerts
	Systems	Oracle Warning Alert Monitoring
	Systems	Oracle Wait time (%)
	Systems	Oracle Buffer Cache hit (%)
	Systems	Oracle SQL response time(%)
	Systems	% of failed advertisements
	Systems	# of advertisements started
	Systems	% of advertisements errors
	Systems	% of successful advertisements
	Systems	DC uptime %
	Systems	DC downtime %
	DISP	Number of C&A Packages Completed
	DISP	Percentage of C&A Boundaries operating under a current ATO
	DISP	Number of site visits completed
	DISP	Number of POA&M mitigations accepted as closed
	DISP	% of User Administration Service Center tickets closed
	DISP	% of forensic cases resolved by CSIRT
	DISP	% of security incidents resolved by CSIRT
	DISP	% of CSIRT Service Center tickets closed
	DISP	% of AD Team Service Center Tickets closed
	Configuration Management	# of Request for Changes (RFC) carried forward from FY07
	Configuration Management	% of RFC carried forward from 2007 - Network
	Configuration Management	% of RFC carried forward from 2007 - OTS
	Configuration Management	% of RFC carried forward from 2007 - BIE
	Configuration Management	% of RFC carried forward from 2007 - TAD
	Configuration Management	% of Request for Changes closed
	Configuration Management	# RFCs open 1 year of beyond
	Configuration Management	# RFCs open greater than 6 months
	Configuration Management	# RFCs open 1-6 months
	Configuration Management	# RFCs open less than month
	Configuration Management	# RFCs open less than week
	Configuration Management	# RFCs not yet approved for implementation
	Configuration Management	# of BIA RFCs for DOI ESN Implementation
	Configuration Management	# RFCs carried forward to FY08 from FY07
	Configuration Management	# of Closures to be presented to the CCB
	Quality Assurance	# of documents reviewed - QA
	Quality Assurance	# of pages reviewed - QA
	Quality Assurance	# of hours spent - QA

Area	Organization	Performance Measure
	Quality Assurance	# of comments identified - QA
	Quality Assurance	# of priority 1 comments - QA
	Quality Assurance	# of comments accepted - QA
	Acquisition	# of requisitions processed (printed, entered to Asset Center)
	Acquisition	# of IRP Requisitions processed
	Acquisition	# of Requests for New Contract Actions
	Acquisition	# of Requests for Contract Actions on existing contracts
	Acquisition	# of contract issues
	Acquisition	# of security clearance packages reviewed and submitted
	Acquisition	# of new entries or updates entered to IIS
	Acquisition	# of PIVs processed and submitted
	Telecommunications	Telecom - Data Circuit Tickets
	Telecommunications	Telecom - Voice/Digital Tickets
	Telecommunications	Telecom - Traps by Severity Type - 0
	Telecommunications	Telecom - Traps by Severity Type - 1
	Telecommunications	Telecom - Traps by Severity Type - 2
	Telecommunications	Telecom - Traps by Severity Type - 3
	Telecommunications	Telecom - Traps by Severity Type - 4
	Telecommunications	Telecom - Traps by Severity Type - 5
	Telecommunications	Telecom - Traps by Severity Type - 6
	Telecommunications	Telecom - Traps by Severity Type - TOTAL
	Telecommunications	Telecom - Syslog messages
	Operations - Service Center	Ticket Accuracy Rate
	Operations - Service Center	Answer Call Rate
	Development	Average time to close: LCTS
	Development	Average time to close: FTTS
	Development	Average time to close: Intranet
	Development	Average time to close: OID Developer
	Development	Average time to close: IMS
	Policies and Records Management	Average time required to renew or prepared to publish Federal Register Notice
Customer	Operations - Service Center	% of service center tickets closed
	Operations - Service Center	% of service center tickets currently unassigned
	Operations - Service Center	% of service center tickets currently open
	Operations - Service Center	# of service center tickets open longer than 15 days
	Operations - Service Center	# of service center tickets open longer than 30 days
	Operations - Service Center	Total First Call Resolution Rate
	Operations - Service Center	Total Phone Call Abandoned Rate
	Operations - Service Center	Avg Answer Delay Time

Area	Organization	Performance Measure
	Operations - Service Center	Avg Answer Delay Time - Voice Msg
	Operations - Service Center	Total E-mails Received
	Operations - Service Center	% Assigned - helpdesk
	Operations - Service Center	% Assigned - desktop
	Operations - Service Center	% Assigned - tier 3
	Operations - Service Center	% of Total Opened Tickets: helpdesk
	Operations - Service Center	% of Total Opened Tickets: desktop
	Operations - Service Center	% of Total Opened Tickets: tier 3
	Operations - Service Center	% of helpdesk tickets closed
	Operations - Service Center	% of desktop tickets closed
	Operations - Service Center	% of tier 3 tickets closed
	Operations - Service Center	Tickets Remained in Queue
	Development - Web posting SC	# of tickets (Web Post)
	Development - Application maintenance	% of LCTS tickets processed
	Development - Application maintenance	% of FTT tickets processed
	Development - Application maintenance	% of Intranet tickets processed
	Development - Application maintenance	% of OID Developer tickets processed
	Development - Application maintenance	% of IMS tickets processed
	Liaison	# of liaison actions taken

4. TECHNOLOGY-BASED EDUCATION PROGRAMS

Technology is a valuable tool to facilitate learning and the BIE has eagerly employed technology tools where and when practical. The benefits of the wealth of knowledge and resources available through the Internet is being provided to students and teachers in schools that are often distant from major population centers.

The 2004-2007 Master Technology Plan, produced under the auspices of the Office of Indian Education programs (OIEP), discussed new technology-based programs that would have a significant future impact on education for OIEP, now BIE. The most significant of those programs was the Native American Student Information System (NASIS). NASIS is a centralized, web-based information system that employs the latest technology to produce data for students, teachers, administrators, and analysts. ***The BIE is pleased to report that the school component of the system, with the help of funding from the Department of Education, has been deployed; and students, teachers, administrators and Central Office staff are already enjoying the benefits of the system.*** BIE now has the ability to easily produce student performance data, and schools have a more cost-effective way to manage and analyze student information. BIE is exploring avenues to build on the NASIS platform.

Also, since the last report, the BIE has taken advantage of other technology-based capabilities to support education. The increase in the use of the BIE network, the Educational Native American Network II (ENAN-II), to access Internet-based resources has been so great, it is now challenging available bandwidth. BIE is seeking increased annual appropriations to accommodate the growing demand for bandwidth.

4.1. Bureau-Sponsored Technology Programs and Initiatives

Some of the more significant uses of education technology deployed on the part of the BIE are summarized in the following table.

Table 2. Bureau-Sponsored Technology Programs and Initiatives

Program Name	Description
NASIS	Web-based, centralized student and school information system; currently supports BIE-funded schools
FOCUS	Emphasizes literacy development and the language/thinking processes of reading/math and writing; includes electronic publishing of locally written and illustrated books to ensure reading/math proficiency of students in all grades.
FACE	The Early Childhood Development program funds Family and Child Education (FACE) for pre-school Indian students and their families to improve academic achievement.
Wireless Reading First and Assessment	Reading First supports schools with implementation of scientifically researched reading instruction and assessment in grades kindergarten through third to ensure that all children read proficiently by the end of third grade.
IDEA Program and Section 504	The Individuals with Disabilities Education Act (IDEA) is a law ensuring services to children with disabilities throughout the nation. Section 504 is a federal law designed to protect the rights of individuals with disabilities in programs and activities that receive federal funds from the U.S. Department of Education.
E-mail	Schools use a web-based POP-3 e-mail system email with the capability of email-client interface (such as Outlook or Outlook express)
Webcasts	Webcasts and video conferencing are used to increase participation and reduce travel costs
Websites	BIE operates a public-facing website (www.oiep.bia.edu) and school business website (enan.bia.edu)

Program Name	Description
RealeBooks	As part of the FOCUS and FACE Programs, RealeBooks are used to motivate students to read by allowing students to write and publish mini-books of their choosing. The books can be posted for others to read via a website.
NASA STEM	The National Aeronautics and Space Administration's (NASA's) Scientific and Technical Engineering and Mathematics (STEM) program will be offered to interested schools.

4.1.1. NASIS

The Native American Student Information System (NASIS) is the BIE student data management system. NASIS is a robust system with capabilities beyond reporting. School administrators can use the system to track and monitor student achievement, assess special education requirements, and track and record average daily membership. NASIS also provides parents with access to their children's educational experiences. NASIS allows the BIE to meet reporting requirements mandated by the Indian School Equalization program (ISEP), eRate, AYP, and NCLB. The following figure illustrates capabilities provided by NASIS.

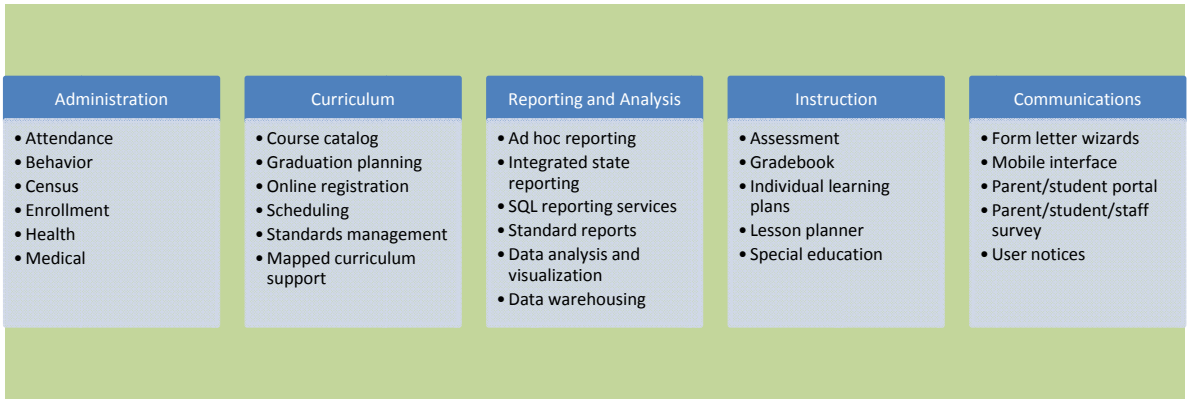


Figure 13. NASIS Features

4.1.2. FOCUS Program

FOCUS provides intensive assistance to schools through curriculum, math, and reading specialists. These specialists work with the school, parents, and the community to evaluate the particular needs of a school's student population. FOCUS specialists, through in-person and webcasts, mentor and coach the teaching staff to implement innovative methods, such as locally illustrated and published books written by students and staff, and intensive assistance in the lower performing groups, to overcome the obstacles preventing higher achievement. Objectives for the participating schools are to:

- Provide ongoing scientifically research-based professional development for teachers in reading and math. This involves reading and math coaches, working one-on-one with the teachers in the classrooms, modeling instruction and analyzing the instruction of the teachers. This is facilitated using web conferencing.
- Improve parental involvement by providing Parent Literacy and Math Nights; providing parent rooms in schools where parents can meet with teachers, use computers, or work on projects; making schools more welcoming to parents.
- Improve school climate by establishing school teams and teaching the teams how to collaborate on common goals.
- Create a culture of literacy, excitement for learning, and a healthy, literate community.

- Teach students test taking skills and communicating the importance of assessments to parents and communities.
- Provide after-school tutoring to those students near proficient performance levels.

Parental and community involvement are vital to improving student performance and are an integral part of the FOCUS strategy. Parental involvement is required for schools to participate in the FOCUS program. In addition to participating in data sessions to evaluate the needs of a school, parents attend workshops that teach how to foster a desire to learn in children and provide them with an environment conducive for learning.

The FOCUS program, which enhances school curriculum and teaching strategies, was piloted in School Year (SY) 2005-2006 by the BIE in five schools. It will be used in SY 2008-2009 to help participating schools meet the challenging goals of NCLB. This funding enables BIE to implement the FOCUS school program at 14 selected schools.

4.1.3. FACE

The Early Childhood Development program funds Family and Child Education (FACE) for pre-school Indian students and their families to improve academic achievement and promote life-long learning. FACE incorporates the unique language and cultural diversity of each Indian community served by the program to assist and encourage parents and primary caregivers to increase their levels of participation in their children's learning. The Bureau started the FACE program in 1990.

The program also provides for the early identification of - and intervention for - children with special needs. Many Indian families speak their native language(s) in the home and have lower levels of literacy than typical American families. Consequently, many Indian students enter school with limited English vocabulary and are not as prepared for academic instruction as their peers from non-Indian communities. FACE addresses the needs of these students through a multi-generation education program for children ranging in age from birth through third grade and their parents.

FACE consists of early childhood education, parenting skills, parent and child interaction time, adult education and family literacy. The FACE program is conducted both in school and home settings. The natural progression from a Home-based Birth Through 3 Years component to a Center-Based 3-5 Years component builds on a developmentally appropriate, "active learning" approach that creates a smooth and successful transition into kindergarten. The Birth Through 5 Years component addresses family literacy needs and improves readiness for school. Programs such as FACE that prepare minority students with the necessary pre-readiness skills have met with success in many communities, including those of Native Americans. The BIE is tracking long term achievements of students and parents who participate in FACE programs.

FACE also provides training for parents/adults to help foster parenting skills and address parental unmet academic needs. The FACE program prepares parents for gainful employment by assisting them in gaining skills that improve employment potential. The FACE program creates a supportive learning environment for the family and enhances the opportunity to break the cycle of poverty and illiteracy that many families face. Ultimately, the FACE program offers an opportunity to participants to better understand the value of education and enhances the opportunity to break the cycle of poverty that many families face.

4.1.4. Wireless Reading First

BIE (then BIA) was awarded $30.4 million dollars for six years of funding (2003 – 2009) under the US Department of Education’s Reading First program. Reading First supports schools with implementation of scientifically researched reading instruction and assessment in grades kindergarten through third to ensure that all children read proficiently by the end of third grade. Currently, the BIE is funding 24 schools as Reading First schools in 11 different States: Maine, Minnesota, Wisconsin, Michigan, Idaho, North Dakota, South Dakota, New Mexico, Arizona, Utah, and Washington.

Preventing or remediating reading failure within the schools requires an ongoing process of monitoring the progress of student achievement at frequent intervals. Technology plays a significant role in this area. The BIA contracted with Wireless Generation Inc., an education technology firm that takes commonly used paper-based early reading assessments and makes them easier to administer by moving them to handheld devices that are Internet enabled. By putting these paper-based assessments on its mClass software platform, Wireless Generation has been able to dramatically streamline the assessment process.

The 24 Reading First schools are using this wireless technology to synchronize data in a secure website environment with instantaneous assessment and reporting results. The Reading First program purchased personal digital assistants and had them installed with the necessary software to administer the required assessments. In addition, desktop computers in the 24 Reading First schools had software installed to allow for synchronization of the assessment data. The software reduces time-consuming paperwork and manual calculations thus reducing human error. Teachers are able to administer the required assessments, receive the results instantaneously, and are then able to make immediate adjustments to students' reading instruction in order to ensure that all children are reading proficiently at every grade level.

4.1.5. IDEA Program and Section 504

The Individuals with Disabilities Education Act (IDEA) is a law ensuring services to children with disabilities throughout the nation. IDEA governs how states and public agencies provide early intervention, special education and related services to more than 6.5 million eligible infants, toddlers, children and youth with disabilities. Infants and toddlers with disabilities (birth-2) and their families receive early intervention services under IDEA Part C. Children and youth (ages 3-21) receive special education and related services under IDEA Part B. IDEA provides funds to support schools in meeting the needs of students with disabilities through a "free, appropriate public education" in the "least restrictive environment."

Section 504 is a federal law designed to protect the rights of individuals with disabilities in programs and activities that receive federal funds from the U.S. Department of Education. Section 504 provides: "No otherwise qualified individual with a disability in the United States . . . shall solely by reason of her or his disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance . . . ."

4.1.6. Web-based Teaching and Distance Learning

Web-based teaching and distance learning are methods of delivery in our largely rural community. The Internet, a non-proprietary delivery system, is advancing the creation and delivery of engaging e-learning tools that transcend typical time and space barriers. Web-based teaching and distance learning can effectively supplement and transform a group of learners in achieving a common learning goal. Web-based teaching and distance learning can assist in the move from a classroom-centric delivery of instruction to a learner-centric model, in which students assume greater responsibility for learning facts, procedures and complex skills along with teamwork skills. In concert with the paradigmatic shift in student learning, the web can make training available at school, at home or wherever there is an open mind, as not all students learn the same way. Some students are visual learners, some auditory, some both, some neither. Interactive web-based tools include a variety of learning modalities to motivate students and support diverse learning styles.

Web-based teaching and distance learning enables teachers to:

- Engage students with fun and exciting real-world learning situations.
- Address national and state standards relative to language-based literacy as well as technological literacy.
- Participate in international projects in a variety of subject areas.
- Foster cultural awareness through connections to an international community.

- Foster cultural awareness through connections within their own learning and teaching communities.
- Discover a living vocabulary resource for foreign language instruction.
- Track student progress and ensure Internet safety with the use of appropriate filters and e-mail monitoring.
- Heighten communications between parents and teachers by giving parents more convenient access to educators.
- Facilitate ongoing communication with parents about student progress.
- Post homework assignments, notices, and other information for students.
- Connect with other educators to share resources and ideas.
- Focus on teaching with technology rather than time-consuming administrative tasks.
- Reduce the "digital divide" by offering access to technology to students without home-based access.

Web-based teaching and distance learning enables parents to:

- Communicate with teachers about student progress at any time.
- Have confidence that students are engaged in appropriate computer activities under adult supervision.
- Reinforce classroom learning with access to the same tools at home.
- Maintain a dialogue with school staff and other parents to increase involvement in and awareness of school activities.
- Experience multilingual communications that facilitate the sharing of information.
- Understand the World Wide Web environment and increase their awareness with regard to the opportunities it makes available to them and their children.

Web-based teaching and distance learning enables students to:

- Obtain a safe and appropriate introduction to e-mail and technology.
- Increase motivation through self-directed and collaborative learning.
- Improve literacy with writing activities geared to authentic audiences.
- Gain comfort with the tools and skills essential for success in today's work environment.
- Facilitate ESL and foreign language learning.
- Cultivate knowledge and cultural understanding through real-world e-mail exchanges.
- Increased access to technology, providing new opportunities for students without home-based access.
- Engage in "anywhere, anytime learning" with access from school, library, and home.

4.1.7. E-mail

BIE uses Internet-based e-mail to communicate. BIE annually subscribes to a commercial e-mail service (located at http://enan.bia.edu) and provides the service free to school staff, on request. The e-mail service is basic, but the cost is accordingly very reasonable. The e-mail service includes a web portal that is used for sharing information with BIE-funded schools.

4.1.8. Websites

BIE operates a website for the public and another website for business communications with the schools. The public website has rudimentary functionality and is only intended to provide basic information to the public. The business website also has basic functionality and, most importantly, provides a means for providing controlled

access to selected documents. The two website approach was implemented due to limited funding, and BIE plans to develop a single web portal for the schools and the public.

4.1.9. Webcasts

BIE has made extensive use of webcasts, especially in support of the NASIS project, and expects the use of webcasts to continue to grow. Webcasts are particularly being considered to increase the number of participants in an event and to reduce the need for travel.

4.1.10. Access Native America Technology Conference

Since 1997, the Access Native America Technology Conference has brought together educators, technology experts, and administrators from the BIE-funded schools, providing a forum for the exchange of ideas and to encourage education professionals to reach beyond the local community in order to gain new insight and learn new ways to integrate technology into their school programs. A primary focus of these meetings is to introduce the latest technology and demonstrate how it can enhance learning.

4.1.11. NASA STEM Program

The National Aeronautics and Space Administration administers a program to increase the number of students involved in NASA-related activities at the elementary and secondary education levels to inspire students to pursue higher levels of study in science, technology, engineering and mathematics, or STEM, courses.

The STEM Program provides experiences and opportunities to further their education and participate in unique NASA learning experiences to enhance their knowledge of STEM. NASA programs emphasize family involvement, which has been shown to enhance student achievement. Finally, NASA will support the role of educational institutions, which provide the framework to unite students, families, and educators for educational improvement.

Programs are in place to:

- Increase the rigor of science, technology, engineering, and math experiences provided to K-12 students through workshops, summer internships, and classroom activities
- Provide high quality professional development to teachers in science, math, engineering and technology through NASA programs
- Develop technological avenues through the NASA web site that will allow families to have common experiences with learning about space exploration
- Encourage inquiry teaching in K-12 classrooms
- Improve the content and focus of grade level/science team meetings in NASA Explorer Schools
- Share the knowledge gained through the Educator Astronaut Program with teachers, students, and families.

The NASA Office of Education strives to ensure that underrepresented and underserved students participate in NASA education and research programs to encourage more of these students to pursue STEM careers. NASA recognizes the role of teachers, faculty and families in the development of successful students

4.2. School-Sponsored Technology Programs and Initiatives

Some schools choose to pursue their own directions and some important technology tools used by them are described below.

Table 3. School-Sponsored Technology Programs and Initiatives

Program Name	Description
Follett	A Web-enabled library support and research program. It provides providing safe, relevant, organized and appropriate content for K-12 learners. **TitlePeek™** helps students to read, and it enhances library search with the ability to view book covers, browse chapters, and read summaries.
Plato	Reading and mathematics form the core of PLATO Learning's elementary curriculum and include after-school solutions that provide additional practice with key concepts, products appropriate for students with special needs, and assessments that make it easy to track progress and provide early intervention. Teacher-facilitated technology tools are appropriate for the traditional classroom, student self-paced solutions for independent practice, and effective intervention solutions.
RealeBooks	A Web-based solution for helping children to write and read, and to produce their own books for publishing on the Web or printing.
Satellite TV	Companies such as DirecTV provide free access to their programming for schools. This makes it possible for schools to access public television, news, art, history, and other channels.
Video Distribution to the Classroom	With appropriately cabled buildings, it is possible to distribute video feeds to classrooms and, with the appropriate equipment, to distribute multiple feeds to classrooms.
School Video Surveillance	While not a teaching tool, video surveillance is helpful in maintaining a safe school environment. When appropriately designed, the video can be carried over existing cable plants.
Videoconferencing	Some schools have begun to use video conferencing as a learning and teaching aid.

5. TECHNOLOGY INFRASTRUCTURE

5.1. Overview

The BIE Management team appreciates that technology is a critical enabling force in helping its students to achieve their full potentials. This has been demonstrated through the implementation of the Educational Native American Network (ENAN) and the Native American Student Information System (NASIS).

ENAN is a single, centrally managed network that provides connectivity to the Internet for BIE schools. The network allows schools to focus on the business of education rather than devoting limited resources to a non-core business function. The design of the network also allowed BIE to provide network security services for its schools and facilitated a centralized implementation of content filtering to satisfy the requirements of the Children's Internet Protection Act. By using the buying power of the US Government, BIE was able to purchase services at a highly competitive rate.

In 2005, BIE began another school-system wide project to provide a centralized student information system, the Native American Student Information System (NASIS). NASIS supports local school operations (enrollment, attendance, grade books, State reporting, etc.) and supports State Educational Authority responsibilities such as school performance management, reporting to the Department of Education and the Department of Agriculture. NASIS provides unparalleled ease of access to timely data for BIE-funded schools. BIE is the only school system with the ability to collect data from schools in 23 states and also provide reports mandated by the State Departments of Education. NASIS became operational at all BIE-funded schools in 2007.

5.2. Current Information Technology

5.2.1. Overview

At a high level, the BIE technology environment can be viewed as consisting of a wide area network, enterprise applications (currently this consists of NASIS, the eChalk e-mail system, and two websites), and the local school infrastructure. These infrastructures are depicted in Figure 14.

5.2.2. Enterprise Services

5.2.3. Wide Area Network

The wide area network, ENAN (depicted in Figure 15), consists of network services provided by Verizon Business Systems, a Technology Services Center, and premise routers that are located at each school. The Verizon services consist of frame relay circuits, a small amount of ATM circuits, and satellite services. The network is architected as a hub and spoke system with three hubs used to connect all of the schools. Eight schools are connected to ENAN through very small aperture terminal (VSAT) satellite systems because of the lack of adequate terrestrial-based telecommunications service.

The ENAN Network Operations Center (NOC) monitors and manages the ENAN infrastructure, operates school websites, protects the network perimeter, provides capabilities for CIPA enforcement, and monitors and remediates vulnerabilities. The ENAN NOC provides one-stop shopping for most individuals that need IT help. The NOC operates on a 10 hours a day, five days a week basis.

The NOC operates McAfee IntruShield Intrusion Protection Systems (IPSes) to secure the ENAN-to-Internet interface and responds to incidents that are detected. The NOC maintains general IPS policies and more specialized policies when requested by schools.

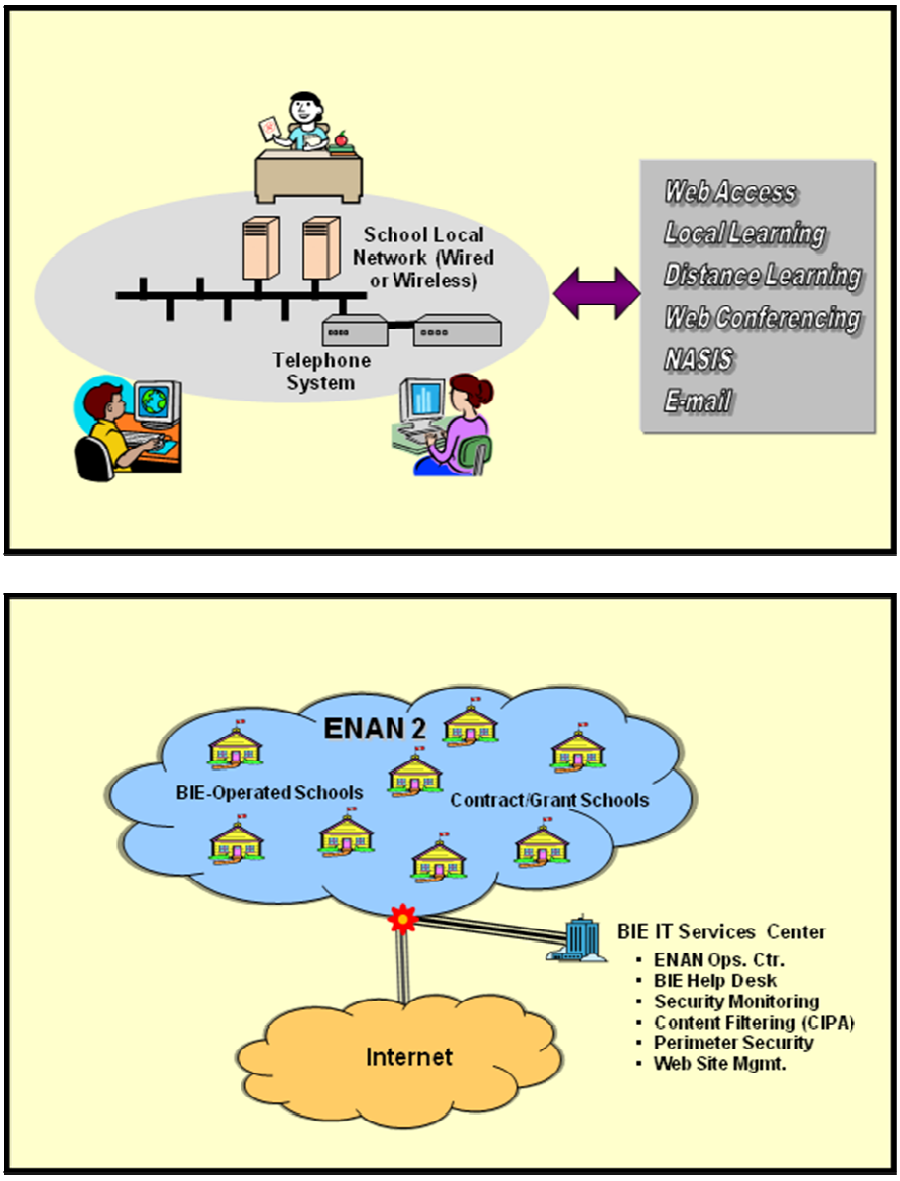


Figure 14. BIE Information Technology Infrastructure Overview

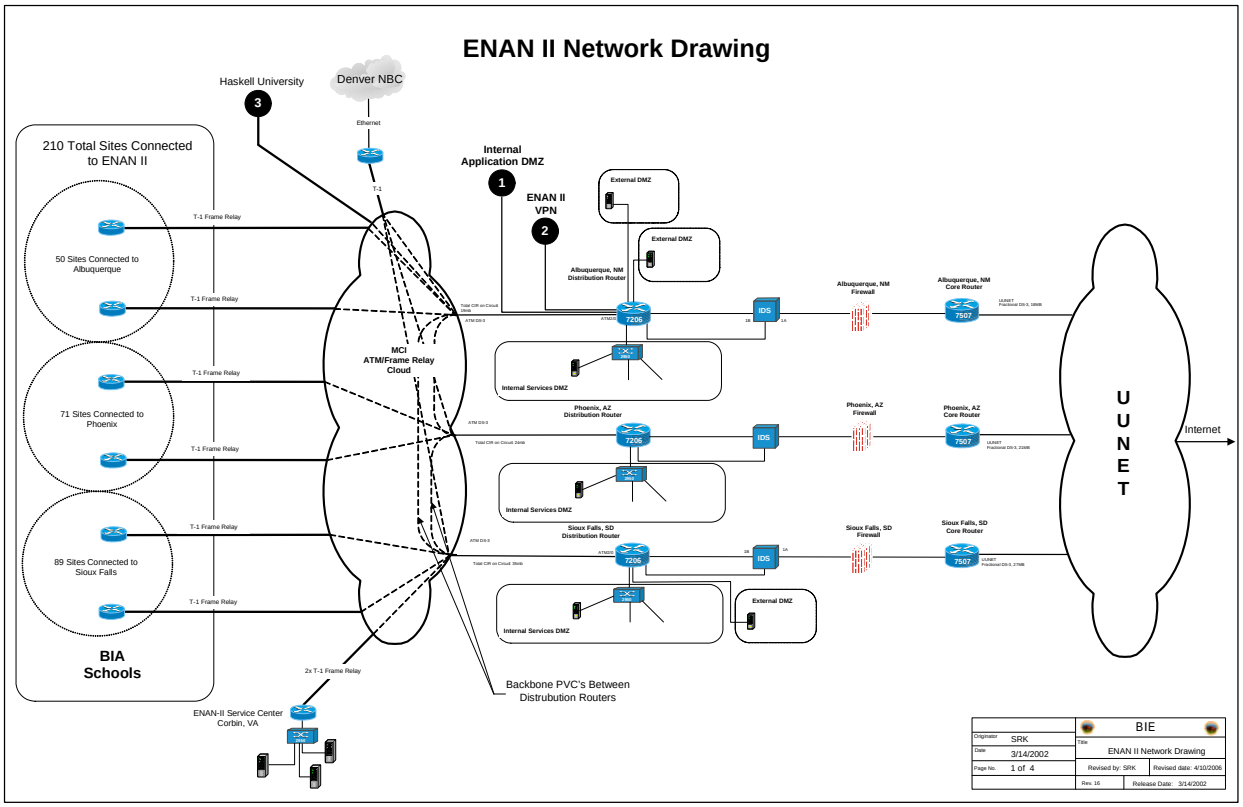


Figure 15. ENAN Network Diagram

The NOC operates a WebSense Content Protection Suite to comply with the requirements of the CIPA. As in the case of the IPSes, the NOC establishes certain policies, but individual schools may request school specific policies. A school, for example, may choose to block access to a site.

5.2.4. E-mail

BIE provides an outsourced e-mail service, from educational e-mail service provider Chalk, for the headquarters staff and those school staff that request to use it. The POP-3 based system provides basic e-mail services and can be accessed using a web browser or an e-mail client such as Microsoft Outlook.

5.2.5. Native American Student Information System (NASIS)

The purpose of the Native American Student Information System (NASIS) is the improvement of student achievement, through a student data management system, for the Bureau of Indian Education. The requirement for an information system for BIE originated in the Educational Amendments of 1978 to PL 95-561 (the basic PL 95-561 was enacted in 1965). With funding provided by the US Department of Education, BIE embarked on deploying a centralized, web-based student information system. An extensive evaluation of potential solutions and a subsequent selection resulted in the award of the acquisition to Infinite Campus. The BIE/Infinite Campus team subsequently deployed NASIS and accomplished an initial operational capability in 1996. With the deployment of NASIS, schools no longer need to operate their own individual student information systems. In time, the NASIS will provide the BIE with the ability to generate analyses encompassing the entire school population as well as electronic reporting to States and the Department of Education.

NASIS places BIE schools on par with the best automated school systems in the country, and the full potential of the system has yet to be exploited. BIE looks forward to the impact that NASIS will have on the students, parents, teachers, administrators, and Central Office staff.

5.2.6. Security

BIE information systems must comply with the information security requirements of the Department of the Interior. Security C&A activities are performed by the Indian Affairs Office of Information Security and Privacy. The same office also performs incident response and digital forensics.

The Indian Affairs Office of Information Operations provides support for contingency planning and disaster recovery. The primary backup data processing center is located at Albuquerque, New Mexico, in an Indian Affairs data center.

5.2.7. Central Office Technology

The BIE Central Office includes the main offices at the Department of the Interior in Washington, DC, the Albuquerque Service Center (ASC) in Albuquerque, New Mexico, and regional education line offices. The BIE CO is responsible for operation of the enterprise systems. The local infrastructure is:

- Ethernet-based local area networks
- Desktop and laptop PCs from a variety of vendors
- Predominantly Windows XP Professional operating systems
- Microsoft Office
- Internet Explorer
- Video conferencing to the Albuquerque Service Center (ASC).

5.2.8. School Technology

The BIE-operated schools generally conform to the descriptions below, and contract/grant schools may diverge from certain aspects of the descriptions.

- Educational Applications and Services
- LANS – Ethernet with 100Mbps being the standard and selected schools implementing Gigabit Ethernet; copper based Ethernet is the standard cabling and optical fiber is used for backbone and inter-building links; wireless Ethernet is widely used
- Routers – BIE provides routers to connect ENAN to school networks; BIE uses Cisco routers
- Switches – schools use a variety of switches and hubs from a variety of vendors
- Firewalls – some schools choose to operate their own
- Content filtering – some schools choose to operate their own
- Servers – Windows-based servers running Windows Server 2003 and earlier versions are widely used; a small number of Apple-based servers are used
- Workstations – desktop and laptop PCs from a variety of vendors are widely used; Apple computers are also used with some schools using them as the primary learning platform
- Telephony – BIE and Indian Affairs OCIO are urging schools to migrate to VoIP-based telephony solutions; this is easier for some schools due to better funding sources and technical staff
- Directory Services – Directory services are employed on an individual school basis; efforts are underway to deploy directory services across multiple schools
- E-mail – multiple e-mail solutions are used, including eChalk, school-operated systems, and third-party offerings such as G-mail and HotMail.
- Asset Management – Asset management can be improved, and solutions are being investigated to simplify the process.

- Data Backup – Practical solutions are needed to improve data backup at the schools. Video Conferencing – use of video over IP conferencing is employed on an individual school basis; efforts need to be discussed, planned and implemented for centralized content servers to provide structured classroom curriculum.

5.3. Preferred Solutions

Below is a list of solutions preferred by BIE and Indian Affairs OCIO.

Table 4. Preferred Technology Solutions

Item	Product
PCs	Major vendor
Laptops	Major vendor
PC/laptop operating system	Windows XP Professional
Server and OS	Major vendor Wintel HW; Windows Server 2003 Apple server; Apple server OS
Office apps	Microsoft Office 2003
Network standard	802.11x
Router	Cisco
Switch	Cisco
Hub	Cisco
Cabling	Cat 6, BICSI Standards
Telephony	Cisco
Firewall/IPS	Enterprise core router, individual school
Content filtering	Enterprise solution, individual school solution
Video Conferencing	Sony, Tanberg, PolyCom
Wireless	Cisco

6. TECHNOLOGY PLANS

Significant advances have been made in the past three years to improve technology at the BIE as evidenced by the increased use of the Internet for distance learning, knowledge acquisition, web conferencing, and telephony. These trends are expected to continue and, in some cases, to accelerate. The top priority for the use of technology is to support the attainment of the NCLB goals and, secondarily, to improve the organizational efficiency and health of the BIE as described in the PIAP. Figure 16 illustrates the relationships between business needs and technology solutions in support of those needs. Developments that are much needed to improve future educational performance accountability are web-based solutions such as the planned web portal and collaboration tools that will allow wider access to available data and analytical reports.

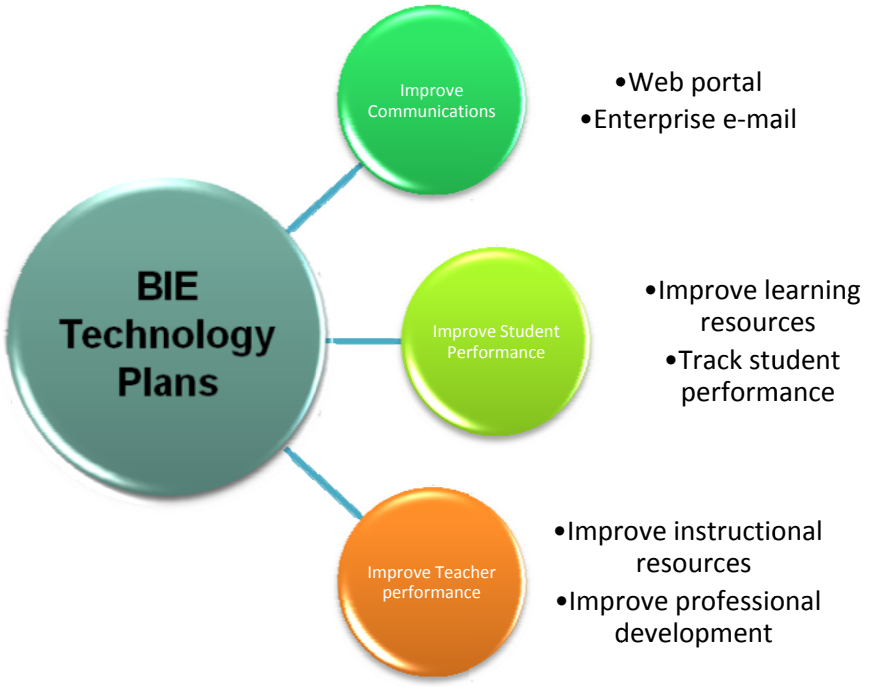


Figure 16. High-Level Technology Goals

BIE understands that there are many external educational opportunities for students and teachers and BIE is actively seeking beneficial relationships. BIE currently is pursuing a relationship with the National Aeronautics and Space Administration (NASA) to participate in its science, technology, engineering, and mathematics (STEM) program.

The technology vision for the preceding plan (issued then by the BIE predecessor organization, the Office of Indian Education programs) is presented in Figure 17. Implementation of NASIS and ENAN-II were two of the major elements of that vision and, in a way, the successful implementation of those systems represented BIE's embrace of the Internet. ENAN provided improved Internet access and NASIS employed the Internet to enable BIE's flagship student information system. The high-level technology plan associated with the OIEP vision is illustrated in Figure 18.

The new, 2007-2010 vision, which further advances the deployment of technology in support of BIE's education mission is illustrated in Figure 19 as the new Indian Affairs IT Vision 2011. For the 2007-2010 time period, BIE plans to:

- Implement a web portal that provides a single BIE web presence and that provides secure access to internal BIE resources and systems; provide access to NASIS, eRate, and budget resources.
- Implement a single identity management system for individuals accessing BIE IT systems.
- Switch the wide area network, ENAN, to a new service under the Networx contract that was recently awarded by the US General Services Administration (GSA). The new service will provide improved bandwidth to schools and improve network management at a cost that is less than for current services.
- Expand management of network resources beyond school premise routers to school switches to improve remote device management from the ENAN Network Operations Center.
- Increase the use of the web-based services, such as web conferencing and distance learning for the benefit of students and teachers.
- Continue standardization of technology solutions such as hardware and software.
- Increase the use of Voice over Internet Protocol (VoIP) and video over IP (video conferencing) solutions.
- Complete transition of its Internet presence from bia.edu to bie.edu.
- Continue with a desktop and laptop PC replacement program so that school computers have adequate processing capabilities.
- Migrate to the Microsoft Windows Vista operating system.
- Continue upgrading school network infrastructures to a minimum of 100Mbps Ethernet and to Gigabit Ethernet at selected schools.
- Implement an ENAN backup operations center at a remote location.
- Increase the use of e-Rate funding, especially for ENAN telecommunications.
- Increase the use of technical grant writing for access to funds.

As a school system that is operated by the Federal Government in 23 States, BIE must comply with Federal, State, and Department of the Interior information technology requirements as listed in Section 1.4.

The technology plans described in this document are high level descriptions. The detailed plans are contained in the BIE Education Technology Program Plan, individual School Technology Plans, and individual program plans.

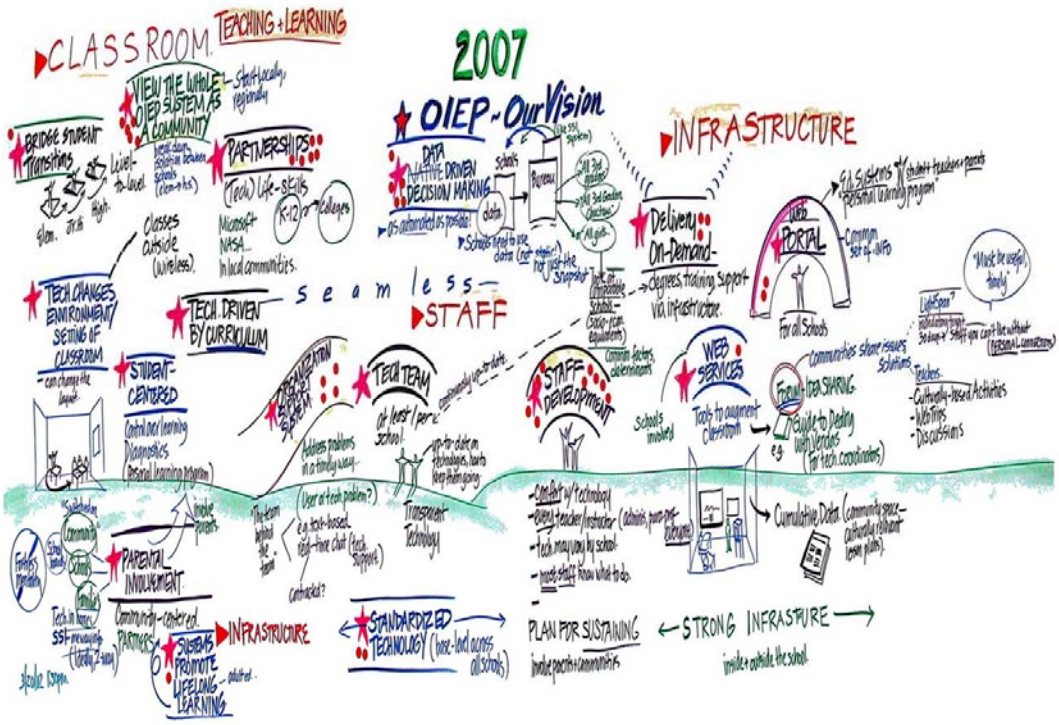


Figure 17. OIEP 2004-2007 Technology Vision

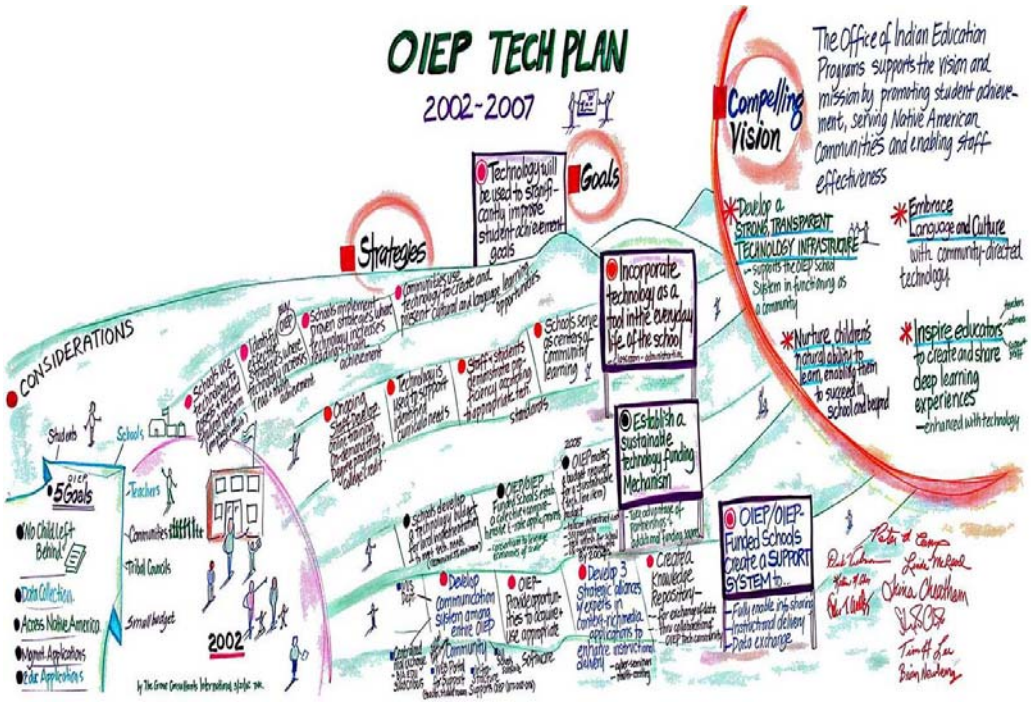


Figure 18. OIEP 2004-2007 Tech Plan Concept

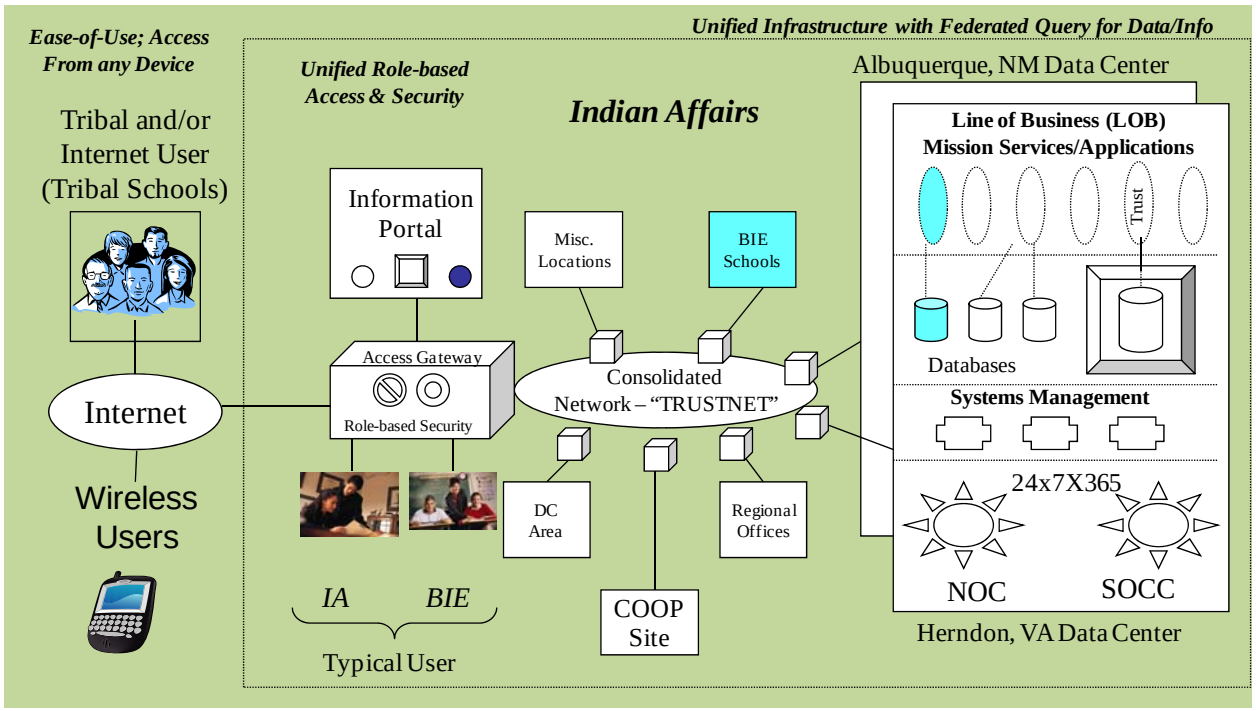


Figure 19. Indian Affairs IT Vision 2011 and Architecture

6.1. Enterprise Technology

The importance of enterprise services will continue to grow in the 2007–2010 timeframe. BIE plans to undertake the projects described in the following table.

Table 5. Enterprise Technology Projects

Area	Project
NASIS	The initial implementation of ENAN provides BIE's required functionality. Additional functionality will be added to support improved communications with parents and improved reporting to the Department of Education and the States.
ENAN	Migrate ENAN to Networx service
	Change the BIE domain name from bia.edu to bie.edu
	Enhance ENAN network monitoring and management to better manage the network
	Enhance ENAN protection against viruses and bots
	Enhance monitoring and analysis of CIPA-related data
	Extend ENAN network and resource monitoring beyond the premise router
Telecom Support	Establish connection between Herndon Help Desk and BIE Help Desk
	Establish backup NOC capability
Help Desk	Add Help Desk staff in Albuquerque and increase overall staffing
Web Enablement	Implement a single BIE web portal

Area	Project
	Automate core business functions; workflow automation for CO and ASC
Wireless Networks	Develop enterprise standards
	Wireless network training for technical staff
Directory Services	Deploy active directory for BIE CO and BIE-operated schools
Data Backup	Implement in conjunction with directory services
Desktop Support	Acquire more support and position resources closer to the schools
	Deploy remote desktop support client
	A standard BIE desktop/laptop image
E-mail	Deploy more robust e-mail solution is needed to provide advance e-mail functions, calendaring, and contact management
Administration	Enterprise purchasing of HW and SW; PC refresh program; enterprise license agreements
	Property management system
	Requisition processing system
E911	Ensure conformance with E911 legislation
eRate	Assist schools with eRate applications
Security	Wireless network security
	Collection and analysis of audit data
	End-user support
	Centralized access authorization and management system

6.2. School Technology

Schools will continue to refresh and improve local technology consistent with the preferred technology solutions. Cabling at many schools will be improved with the aid of eRate funds and/or new school construction funds. BIE plans to undertake the projects described in Table 6 during FY 2007-2008

Table 6. School Technology Projects

Area	Project
Infrastructure	Continue migration to VOIP
	Deploy and manage wireless networks
	Deploy and maintain standardized networks with DHCP
	Upgrade school cabling
	Acquire local technical support as needed
Instructional Aids and Staff Development	Distance learning for students and for staff professional development
	Web and computer-based instructional applications (e.g., PLATO)

Area	Project
	FOCUS
	Face
	Wireless Reading First
	Webcasts
	Web-based external resources
	Library automation (e.g., Follet)
	Video distribution to the classroom (cable and wireless)
	Video conferencing
	Satellite (direct broadcast) delivery of educational programming
Assessments	**State and Federal assessments**
Physical Security	**Premise video surveillance**

6.3. Typical School Designs

Typical school infrastructure designs for small, medium, large, and extra-large schools are provided in Appendix C. The designs ensure technology standardization, reduced support needs, reduced per unit costs, and reduced training needs.

7. TECHNOLOGY BUDGETING

Funds for the BIE and its schools comes from multiple sources and the use of the funds is determined by the BIE, the OCIO, and the individual schools.

7.1.1. Bureau of Indian Education

The total FY 2008 request for BIE elementary and secondary school operations is $562.0 million. A total of $139,844,000 was requested for school construction. A portion of these funds will be allocated to technology needs. School technology commitments are determined by individual school boards. The bureau funds enterprise technology programs, such as ENAN ($4.3M requested for FY08) and NASIS ($1.85M requested for FY08)), and contributes to other requirements on a case by case basis.

In addition to its annual appropriations, BIE also administers and provides technical support to several programs funded by the Department of Education. The following table provides the estimated funding from the Department of Education for school year 2008-2009.

Table 7. BIE-Funded Schools Department of Education Funding

DEPARTMENT OF EDUCATION FUNDING* FOR THE BIA ELEMENTARY/SECONDARY SCHOOL SYSTEM (SCHOOL YEAR 2008-2009)		
Individuals with Disabilities Education Act, *Public Law* 94-142, as amended by *Public Law 105-17,* Part B, section 611(a)(1)	$66,836,613	Funds are used to supplement services to disabled children between the ages of five and 21 years enrolled in BIE-funded schools who require special education and related services in accordance with an Individual Education Plan.
Education of Homeless Children and Youth, *Public Law 107-110*	$618,710	*This* program provides supplemental assistance to four school sites for students who qualify by providing extra counseling, tutoring, and funds for clothing and transportation.
Title I - Helping Disadvantaged Children Meet High Standards, *Public Law 107-110*	$89,200,088	This program enables schools to provide opportunities for all children served to acquire the knowledge and skills that are contained in the BIE content standards and to enable them to meet challenging performance standards. The dol1ar amount includes a one time only supplemental distribution of $776,747 from the Dept. of Education.
Title I, Part B, Subpart 4 - Student Reading Skills Improvement Grants, ESEA as amended by *Public Law 107-110*	$5,146,170	The purpose of this program is to improve student literacy skills and academic achievement through purchase of up-to-date library resources, improvement of school library technology, increased access to library services and access to professionally certified school library specialists
Title II - Part A Teacher Quality Improvement, *Public Law 107-110*	$14,365,009	These funds support professional development activities for teachers. Schools may use funds for meeting technology needs and implementing new techniques of teaching math and science concepts.
Title II - Part D Enhancing Education Through Technology, *Public Law 107-110*	$2,001,037	The purpose of the Technology Literacy Challenge Fund is to provide resources to speed the implementation of technology in schools by fully integrating it into the curricula so that all students become technologically literate and able to meet the demands of the 21st Century. These funds are awarded on a competitive basis to schools that demonstrate the greatest need for technology.

DEPARTMENT OF EDUCATION FUNDING* FOR THE BIA ELEMENTARY/SECONDARY SCHOOL SYSTEM (SCHOOL YEAR 2008-2009)		
Title IV - Drug Free Schools and Communities Act, *Public Law 107-110*	$4,750,000	The purpose of this program is to support schools in developing programs to prevent violence in and around schools and to s1rengthen programs that prevent the illegal use of alcohol and drugs.
Title IV - Part B 21st Century Community Learning Centers, *Public Law 107-110*	$7,322,706	The 21st Century Community Learning Centers program is a state- administered discretionary grant program in which states hold a competition to fund academically focused after-school activities. While the focus is on improving student academic achievement, other activities associated with youth development, recreation, the arts, and drug prevention, as well as literacy services for parents, are permitted.
Title VI - Part B Rural Education, *Public Law 107-110*	$422,294	*This* program provides additional funds to rural districts that serve concentrations of poor students. A Local Education Agency that is eligible to receive funds under the Small, Rural School Achievement program may not participate in the Rural and Low-Income School Program.
Title VII - Indian Education Act, *Public Law 107-110*	$2,337,840	This law provides funds for the special academic and culturally relevant education needs of Indian children.
Title VI - Part A - Subpart 1 - Improving Academic Achievement, Accountability, Grants for State Assessments and Enhanced Assessments, *Public Law 107-110*	$2,000,000	The Grants for State Assessments and Related Activities program helps develop the assessments required under No Olild Left Behind and supports collaborative efforts with institutions of higher education or research institutions to improve the quality of assessments.
Title I - Part B - Subpart 4 - Improving Literacy through School Libraries, *Public Law 107-110*	$97,431	*This* program is designed to improve the literacy skills and academic achievement of students by providing them with access to up-to-date school library materials; technologically advanced school library media centers; and professionally certified school library media specialists.
'Beginning in FY 2007, Dept of Education amount represents funds distributed to schools ONLY.		

7.1.2. School

Funds for school technology improvements at schools are budgeted at the school level and approved by the respective school boards. Schools receive funds through multiple Title programs administered by the US Departments of Education (listed above) and Agriculture. Schools receive funding through the eRate Program and the Indian Affairs eRate Office will continue to support the schools in pursuing their plans.

7.1.3. OCIO

The total requested FY2008 budget for OCIO is $52 million. The Indian Affairs OCIO, while not providing funds to the BIE, does provide technical support and infrastructure items, thereby reducing the overall BIE IT budget needs.

This support includes:

- Operation of ENAN
- Technical support for information technology at BIE offices and schools
- eRate Program operation
- IT capital planning services
- IT security services
- Architecture and engineering services
- Information systems operations and management
- Software development, collaboration and web tools development

8. eRate Program

This plan describes the BIE technology plans for 2007-2010 and provides a foundation on which BIE-funded schools may develop School Technology Plans and, at some point in the future, a foundation for BIE-sponsored consortium applications. The plan is compliant with USAC's five rules for a technology plan.

8.1. The FCC eRate Program

The Schools and Libraries Program of the Universal Service Fund, commonly known as "E-Rate," is administered by the Universal Service Administrative Company (USAC) under the direction of the Federal Communications Commission (FCC), and provides discounts to assist most schools and libraries in the United States to obtain affordable telecommunications and Internet access. It is one of four support programs funded through a Universal Service fee charged to companies that provide interstate and/or international telecommunications services.

The Schools and Libraries Program supports connectivity - the conduit or pipeline for communications using telecommunications services and/or the Internet. Funding is requested under four categories of service: telecommunications services, Internet access, internal connections, and basic maintenance of internal connections. Discounts for support depend on the level of poverty and the urban/rural status of the population served and range from 20% to 90% of the costs of eligible services. Eligible schools, school districts and libraries may apply individually or as part of a consortium.

Applicants must provide additional resources including end-user equipment (e.g., computers, telephones, etc.), software, professional development, and the other elements that are necessary to utilize the connectivity funded by the Schools and Libraries Program.

8.2. BIE Commitment to the Rate Program

Because of the level of poverty or rural location, most BIE-operated schools are candidates for the Federal Communications Commission (FCC) eRate Program. Because of this, BIE (and its predecessor - the Office of Indian Education Programs) has been involved in eRate since its earliest days. BIE has sought to improve its success in obtaining eRate funds and has sought to improve its compliance with eRate rules. In 2005, the BIE and the Indian Affairs Office of the Chief Information Officer agreed that OCIO would assume management of the eRate Program under the direction of BIE. The additional technology resources and knowledge provided by OCIO has helped to improve the performance of the BIE eRate program. School year 2006-2007 was a record year for BIE with 101 of the 184 BIE-funded schools applying for eRate funds.

BIE and OCIO are also embarking on a significant technology assessment for selected schools so that a comprehensive plan can be developed to address the needs of individual schools. The individual school plans will become the basis for individual School Technology Plans. This approach will ensure that school plans are synchronized with BIE-validated needs.

BIE has established performance metrics for monitoring the health of its eRate program and this data is regularly reported to top BIE and OCIO management. The performance measures include:

- Percentage of requested funds approved (overall and by school)
- Percentage of funds utilized (overall and by school)
- Percentage of schools compliant with BIE and OCIO technology standards.

8.3. BIE eRate Program Office

In 2005, a new BIE eRate Office was created under the management of the OCIO. The office consists of three full-time employees that are assisted, as required, by staff from both the BIE and the OCIO. A senior OCIO manager oversees their efforts and monitors the performance metrics reports.

The BIE eRate office also assists BIE-funded schools with:

- Technology planning
- eRate applications (Forms 470s, 471s, etc.)
- Program Integrity Assurance (PIA) reviews and audits
- Records management
- Contracts.

Many schools have difficulty with the significant administrative burden that accompanies participating in the eRate Program. Beginning in FY 2008, the OCIO will provide increased support to the schools to help with technology planning, monitoring of school deadlines, storage of important documents/artifacts, and PIA reviews and audits. Also in FY 2008:

- eRate collaboration tools will be integrated into the planned BIE Web portal
- eRate consultants will be retained to help the schools
- A new School Technology Plan template will be published.

In the case of eRate School Technology Plans, a school's technology plan must be approved by the BIE eRate office, but contract and grant school technology plans may be approved by the eRate office for the state in which the school operates. The eRate program office supports all BIE-operated schools and those BIE-funded contract and grant schools that request assistance.

8.4. Plan Compliance with eRate Program Requirements

BIE complies with the key eRate program requirements as described in the Table 4.

Table 4. BIE Compliance with eRate Program Requirements

eRate Requirement	BIE Compliance
Clear goals and a realistic strategy for using telecommunications and information technology to improve education services.	The overarching technology planning for the BIE is performed jointly by the BIE and the IA-OCIO. This Master Technology Plan presents the goals and strategy for using telecommunications and information technology.
A professional development strategy to ensure that staff know how to use these new technologies to improve education services.	It is BIE's goal to offload maintenance and support of school technology systems from schools to allow the schools to focus on educating students. To this end BIE and OCIO are increasing the use of remote management capabilities and the use of contracted local services. With respect to this eRate Program requirement, local staff need not know how to us new technologies other than as an end-user. For widely deployed technologies, such as the NASIS system, BIE trains end users and will continue to operate a training program for the foreseeable future. For major network devices, such as routers, IA-OCIO remotely monitors and can remotely manage such devices. Education technology used by school staff are not purchased using eRate funds.
An assessment of the telecommunication services, hardware, software and other services that will be needed to improve education services.	Consistent with the strategy described immediately above, IA-OCIO provides recommendations for services hardware and software to improve education services. BIE and IA-OCIO also rely on eRate consultants to help the schools. BIE schools make decisions concerning educational tools, such as educational applications. These tools are often influenced by State Departments of Education because the curriculum and teaching standards for BIE-funded schools are aligned with the states in which they are located. BIE does not have its own curriculum.
A sufficient budget to acquire and support the non-discounted elements of the plan: the hardware, software, professional development, and other services that will be needed to implement the strategy.	School information technology budgets are determined by the school principals and the respective school boards, not by BIE or IA-OCIO. IA-OCIO and school eRate consultants advise schools when requested on the sufficiency of school budgets. IA-OCIO also reviews budgets for sufficiency when reviewing school technology plans.
An evaluation process that enables the school or library to monitor progress toward the specified goals and make mid-course corrections in response to new development and opportunities as they arrive.	Each school implements its own plan for measuring progress toward educational goals and reports progress as required by the No Child Left behind Act, the Department of Education, and the Department of Education of respective states. IA-OCIO and BIE operate and maintain school technology infrastructure. Solutions are implemented using the Indian Affairs System Life Cycle Guide. Operational performance is monitored on a daily basis through automated monitoring tools. A centralized Help Desk supports resolution of problems.

APPENDICES

A. BIE-Operated Schools

School Name	State	Location Code	Entity Number	Address	City	Zip Code
Aneth Community School	UT	N32E02	96805	P.O. Box 600	Montezuma Creek	84534
Baca/Dlo'ay Azhi Community School	NM	D34N02	98953	P.O. Box 509	Prewitt	87045
Beclabito Day School	NM	N32E04	99255	P.O. Box 1200	Shiprock	87420
Blackfeet Dormitory	MT	D51C03	67543	P.O. Box 880	Browning	59417 -0880
Bread Springs Day School	NM	D34N04	99164	P.O. Box 1117	Gallup	87305
Chemawa Indian School	OR	D02P02	113722	3700 Chemawa Road, NE	Salem	97305
Cheyenne-Eagle Butte School	SD	D01A12	66418	P.O. Box 672	Eagle Butte	57626
Chi Chil' tah (Jones Ranch)	NM	D34N05	99190	P.O. Box 278	Vanderwagon	87326
Chinle Boarding School	AZ	N35E20	98865	P.O. Box 70	Many Farms	86538
Cottonwood Day School	AZ	N35E04	98812	P.O. Box 6003	Chinle	86503
Cove Day School	AZ	N32E05	99261	P.O. Box 2000	Red Valley	86544
Crystal Boarding School	NM	D36N05	99199	Hwy 134	Navajo	87328
Dennehotso Boarding School	AZ	N33E04	98864	P.O. Box 2570	Dennehotso	86535
Dunseith Day School	ND	D11A02	66779	P.O. Box 759	Dunseith	58329
Dzilth-Na-O-Dith-Hle Community School	NM	D34N24	99238	35 Road 7585 #5003	Bloomfield	87413
First Mesa Day (Polacca Day)	AZ	D65E11	98639	P.O. Box 750	Polacca	86042
Flandreau Indian School	SD	F70E02	65808	1005 S. Mountain Chief Drive #1	Flandreau	57028
Havasupai Elementary School	AZ	D65E23	98793	P.O. Box 40	Supai	86435
Hunters Point Boarding School	AZ	D36N11	98846	Route 12, P.O. Box Drawer 99	St. Michaels	85611 -0099
Isleta Elementary School	NM	D20M04	98917	Tribal 40, House #72, P.O. Box 550	Isleta	87022
Jemez Day School	NM	D20M05	98919	243 Day School Road, P.O. Box 139	Jemez Pueblo	87024
John F. Kennedy Day School	AZ	H52E12	98554	Hwy 73, P.O. Box130	White River	85941
Kaibeto Boarding School	AZ	N33E07	98672	P.O. Box 1420	Kaibeto	86053
Kayenta Community School	AZ	D33N)8		Hwy 163, Box 188	Kayenta	86033
Keams Canyon Elementary School	AZ	D65E21	98629	P.O. Box 397	Keams Canyon	86034
Lake Valley Navajo School	NM	D34N10	99172	P.O. Box 748	Crownpoint	87313
Sitting Bull School	SD	D10A05	66437	1 School Street, P.O. Box 26	Little Eagle	57639
Many Farms High School	AZ	N35E21	98866	P.O. Box 307	Many Farms	86538
Mariano Lake Community School	NM	D34N12	99168	P.O. Box 787	Crownpoint	87313
Na'Neelzhiin Ji'Olta (Torreon)	NM	D34N18	98899	HCR 79, Box 7	Cuba	87103
Nenahnezad Community School	NM	N32E06	99246	P.O. Box 337	Fruitland	87416

School Name	State	Location Code	Entity Number	Address	City	Zip Code
Ojo Encino Day School	NM	D34N13	98890	HCR 79, Box 7	Cuba	87103 -9701
Pine Ridge School	SD	D06A16	66561	P.O. Box 1202	Pine Ridge	57770
Pine Springs Day School	AZ	D36N18	98839	10021 Pine Springs Road, P.O. Box 4198	Houck	86506 -4198
Pueblo Pintado Community School	NM	D34N15	98895	HCR 79, Box 80	Cuba	87103 -9600
Red Rock Day School	AZ	N32E07	98867	P.O. Box 2007	Red Valley	86544
Riverside Indian School	OK	D01B02	83401	Route 1	Anadarko	73006
Rocky Ridge Boarding School	AZ	N33E15	98633	P.O. Box 299	Kykotsmovi	86039
San Felipe Pueblo Elementary	NM	D20M12	98872	I-25 N & SR 313, P.O. Box 4343	San Felipe Pueblo	87001
San Ildelfonso Day School	NM	M25E13	99294	Route 5, Box 308	Santa Fe	87501
San Simon School	AZ	D54H22	98161	HC 01, Box 8292	Sells	85634
Sanostee Day School	NM	N32E09	99267	P.O. Box 159	Sanostee	87461
Santa Clara Day School	NM	M25E16	99335	P.O. Box2183	Espanola	87532
Santa Rosa Boarding School	AZ	D54H21	98162	HC 01, Box 8400	Sells	85634 -7570
Santa Rosa Ranch School	AZ	D54H11	98433	HC 02, Box 7570	Sells	85634
Seba Dalkai Boarding School	AZ	D36N19	98671	HC 63, Box H	Winslow	86047 -9423
Sherman Indian High School	CA	D60J02	105107	9010 Magnolia Avenue	Riverside	92503
Sky City Community School	NM	D20M02	98941	P.O. Box 349	Acoma	87304
T'iis Nazbas Community School (Teecnospos)	AZ	N32E10	98858	P.O. Box 102	TeecNosPos	86514
T'iists'oozi'bi'olta (Crownpoint)	NM	D34N23	99166	P.O. Box 178	Crownpoint	87313
T'siya Elementary & Middle School(Zia)	NM	D20M22	98959	1000 Borrego Canyon Road	Zia Pueblo	87053 -6006
Taos Day School	NM	M25E19	99384	P.O. Drawer X	Taos	87571
Te Tsu Geh Oweenge Day School(Tesuque)	NM	M25E20	193935	Route 53, Box 2	Santa Fe	87506
Tiospaye Topa School	SD	D01A15	155284	123 E. Hwy 212, P.O. Box 300	Ridgeview	57652
Tohaali' Community School (Toadlena)	NM	N32E11	99265	P.O. Box 9857	Newcomb	87455
Tohono O'odham High School	AZ	D54H25	98163	HC 01, Box 8513	Sells	85634 -0513
Tonalea School (Red Lake)	AZ	N33E13	98641	P.O. Box 39	Tonalea	86044
Tse'ii'ahi' Community School(Standing Rock)	NM	D34N16	99173	Navajo Route 9, P.O. Box 828	Crownpoint	87313
Tuba City Boarding School	AZ	N33E19	98651	306 Main Street, P.O. Box 187	Tuba City	86045
Turtle Mountain Community Elementary School	ND	D11A09	66769	Hwy 5, Mail Code E, P.O. Box 440	Belcourt	58316
Turtle Mountain Community Middle School	ND	D11A10	66771	Hwy 5, Mail Code M, P.O. Box 440	Belcourt	58316
Wingate Elementary School	NM	D34N20	99174	P.O. Box 1	Ft. Wingate	87316
Wingate High School	NM	D34N21	99175	P.O. Box 2	Ft. Wingate	87316

B. TRIBALLY-OPERATED SCHOOLS

School Name	State	Location Code	Entity Number	Address	City	Zip Code
Ahfachkee Indian School	FL	S53E02	37406	HC 61, Box 40	Clewiston	33440
Alamo Day School	NM	D34N27	99448	P.O. Box 907	Magdalena	87825
American Horse School	SD	D06A02	66491	P.O. Box 660	Allen	57714-0660
Atsa Biyaazh Community School	NM	D32N17	99260	P.O. Box 1809	Shiprock	87420
Aztec Dormitory	NM	N32E03	99233	1600 Lydia Rippery Road	Aztec	87410
Beatrice Rafferty School	ME	S56E02	4365	RR 1, Box 338	Perry	04667
Black Mesa Community School	AZ	N35E23	98814	P.O. Box 97	Pinon	86510
Blackwater Community School	AZ	D57H12	97574	Route 1, Box 95	Coolidge	85228
Bogue Chitto Elementary School	MS	S78E21	43572	13241 Highway 491 North	Philadelphia	39350
Bug-O-Nay-Ge-Shig School	MN	F53E13	65657	15353 Silver Eagle Drive, NW	Bena	56626
Casa Blanca Community School	AZ	D57H13	97508	P.O. Box 10940	Bapchule	85221
Cherokee Central Elementary School	NC	S52E04	30142	33 Drowning Bear Street	Cherokee	28719
Cherokee Central High School	NC	S52E03	209822	33 Drowning Bear Street	Cherokee	28719
Chickasaw Children's Village (Carter Seminary)	OK	D03B02	83928	1185 Village Road	Kingston	73439
Chief Leschi School (Puyallup)	WA	P10E15	115777	5625 52nd Street East	Puyallup	98371
Chilchinbeto Community School	AZ	N33E02	98625	P.O. Box 740	Kayenta	86033
Chitimacha Day School	LA	S50E09	80730	3613 Chitmacha Trail	Jeanerette	70544
Choctaw Central High School	MS	S78E23	43569	150 Recreation Road	Choctaw	39350
Choctaw Central Middle School	MS	S78E24	43570	150 Recreation Road	Choctaw	39350
Chooshgai (Chuska) Community School	NM	D36N03	99188	North Hwy 666, Building 100, P.O. Box 321	Tohatchi	87325-0321
Cibecue Community School	AZ	H52E11	98515	101 Main Street, P.O. Box 80068	Cibecue	85911

School Name	State	Location Code	Entity Number	Address	City	Zip Code
Circle of Life Survival School	MN	F53E14	65629	Country Road 21, P.O. Box 447	White Earth	56591
Circle of Nations – Wahpeton Indian Boarding School	ND	F80E02	66638	823 8th Street North	Wahpeton	58075
Coeur d' Alene Tribal School	ID	D05P02	96068	Box 338	DeSmet	83824
Conehatta Elementary School	MS	S78E22	43193	851 Tushka Drive	Conehatta	39057
Crazy Horse School	SD	D06A23	66386	101 School Road, PO Box 260	Wanblee	57577
Crow Creek Reservation High School	SD	D14E04	66129	P.O. Box 12	Stephan	57346
Crow Creek Sioux Tribal Elementary School	SD	D14A02	209828	P.O. Box 469	Fort Thompson	57339
Dibe Yazhi Habłti'n O'lt'a, Inc. (Borrego Pass)	NM	D34N03	99169	P.O. Box 679	Crownpoint	87313
Dilcon Community School	AZ	D36N06	98669	State Route 87, 40 miles north of Winslow, HC 63, Box G	Winslow	86047
Duckwater Shoshone Elementary	NV	D61J03	100072	509 Duckwater Fall, P.O. Box 1400	Duckwater	89314
Enemy Swim Day School	SD	D09A03	66050	RR 1, Box 87	Waubay	57273
Fond du Lac Ojibwe School	MN	F53E15	64641	105 University Road	Cloquet	55720
Gila Crossing Day School	AZ	D57H14	97902	P.O. Box 10	Laveen	85339
Greasewood Springs Community School, Inc	AZ	D36N08	98831	HC 58, Box 60	Ganado	86505-9706
Greyhills Academy High School	AZ	N33E22	98649	P.O. Box 160	Tuba City	86045
Hanaa'dli Community School	NM	D34N06	99239	Box 639	Bloomfield	87413
Hannahville Indian School	MI	F60E07	58573	N 14911 Hannahville B1 Road	Wilson	49896
Hopi Day School	AZ	D65E13	98632	P.O. Box 42	Kykotsmovi	86039
Hopi Jr./Sr. High School	AZ	D65E22	98626	P.O. Box 337	Keams Canyon	86034
Hotevilla Bacavi Community School	AZ	D65E14	98616	P.O. Box 48	Hotevilla	86030
Indian Island School	ME	S57E02	4247	10 Wabanki Way	Old Town	04468
Indian Township School	ME	S55E02	4367	13 School Drive	Princeton	04668

School Name	State	Location Code	Entity Number	Address	City	Zip Code
Jeehdeez'a Academy, Inc. (Low Mountain)	AZ	N35E06	98813	P.O. Box 1073	Pinon	86510
Jicarilla Dormitory	NM	M25E33	99333	P.O. Box 1009	Dulce	87528
Jones Academy	OK	B09B02	85014	HCR 74, Route 1, Box 102-5	Hartshorne	74547
Joseph K. Lumsden Bahweting Anishnabe School	MI	F60E02	58461	1301 Marquette Avenue	Sault Ste. Marie	49783
Kickapoo Nation School	KS	D04B06	77029	P.O. Box 106	Powhattan	66527
Kin Dah Lich'l Otta (Kinlichee)	AZ	D36N14	98832	P.O. Box 800	Ganado	86505-0800
KinLani Bordertown	AZ	N33E05		901 KinLani Road	Flagstaff	86001
Lac Coute Oreilles Ojibwa School	WI	F55E14	63112	8875 N. Round Lake School Road	Hayward	54843
Laguna Elementary School	NM	D21M02	98925	I-40, Exit 114, P.O. Box 191	Laguna	87026
Laguna Middle School	NM	D21M03	98926	I-40 West, Exit 114, P.O. Box 268	Laguna	87026
Leupp School, Inc.	AZ	N33E09	98657	Hwy 99, HC 61, Box D	Winslow	86047
Little Singer Community School	AZ	N33E24	98667	HC 61, Box 310	Winslow	86047
Little Wound School	SD	A06E06	66536	P.O. Box 500	Kyle	57752-0500
Loneman Day School	SD	D06A13	66553	P.O. Box 50	Oglala	57764
Lower Brule Day School	SD	D15A02	66347	600 Crazy Horse St. P.O. Box 245	Lower Brule	57548
Lukachukai Community School	AZ	N35E07	98840	Navajo Route 13	Lukachukai	86507
Lummi Nation High School	WA	D10P17	115414	2334 Lummi View Drive	Bellingham	98226
Lummi Nation Tribal School	WA	D10P14	115415	2334 Lummi View Drive	Bellingham	98226
Mandaree Day School	ND	D11A13	67076	P.O. Box 488	Mandaree	58757
Marty Indian School	SD	D07A12	66158	P.O. Box 187	Marty	57361
Menominee Tribal School	WI	F58E04	62184	Hwy 47 North, P.O. Box 39	Neopit	54150
Mescalero Apache School	NM	D20M30	99732	210 Central Mescalero Avenue, P.O. Box 230	Mescalero	88340
Meskwaki Settlement School	IA	F51E02	59998	1605 305th Street	Tama	52339

School Name	State	Location Code	Entity Number	Address	City	Zip Code
Miccosukee Indian School	FL	S54E02	36772	US HWY 41, Mile Marker 70, P.O.Box 440021, Tamiami Station	Miami	33144
Moencopi Day School	AZ	D65E15	98650	P.O. Box 185	Tuba City	86045
Muckleshoot Tribal School	WA	D10P16	115031	39015 172nd Avenue, SE	Auburn	98090
Naa Tsis Ana Community School(Navajo Mountain)	AZ	N33E11	98642	P.O. Box 10010	Tonalea	86044
Navajo Preparatory School	NM	N32E20	99209	1220 West Apache	Farmington	87401
Nay-Ah-Shing School	MN	F53E18	65407	43651 Oodena Drive	Onamia	56359
Nazlini Community School	AZ	N35E09	98833	HC 58, P.O. Box 35	Ganado	86505
Noli School	CA	D54E02	209830	P.O. Box 487	San Jacinto	92581
Northern Cheyenne Tribal School	MT	D57C04	67151	One Campus Drive, P.O. Box 150	Busby	59016-0150
Ohkay Owingeh Community School(San Juan)	NM	M25E14	99380	P.O. Box 1077	San Juan Pueblo	87566
Ojibwa Indian School	ND	D11A08	66772	P.O. Box 600	Belcourt	58316
Oneida Nations Elementary School	WI	F55E15	62197	N7125 Seminary Road, P.O. Box 365	Oneida	54155-0365
Paschal Sherman Indian School	WA	D03P02	116504	25 A Mission Road	Omak	98841
Pearl River Elementary School	MS	S78E25	43573	470 Industrial Road	Choctaw	39350
Pierre Indian Learning Center	SD	D01A14	209824	3001 E. Sully Avenue	Pierre	57501-4419
Pine Hills School	NM	D20M29	99176	Route 125, P.O. Box 220	Pine Hills	87357
Pinon Community School	AZ	N35E10	98841	P.O. Box 159	Pinon	86510
Porcupine Day School	SD	D06A18	66563	100 School Drive, P.O. Box 180	Porcupine	57772
Pyramid Lake High School	NV	D61J02	100124	P.O. Box 267	Nixon	89424
Quileute Tribal School	WA	D10P02	115711	P.O. Box 39	LaPush	98350
Red Water Elementary School	MS	S78E13	43182	555 Red Water Road	Carthage	39051
Richfield Residential Hall, Inc.	UT	N33E14	96898	P.O. Box 638	Richfield	84701
Rock Creek Grant School	SD	D10A03	66413	1 School Street, P.O. Box 127	Bullhead	57621
Rock Point Community School	AZ	N35E11	98869	Hwy 191	Rock Point	86545

School Name	State	Location Code	Entity Number	Address	City	Zip Code
Rough Rock Community School	AZ	N35E12	98815	RRTP, #PTT, Box HC #61 #1480	Chinle	86503
Salt River Day School	AZ	D57H19	97669	10000 East McDowell Road	Scottsdale	85256-9281
Santa Fe Indian School	NM	M25E32	99297	P.O. Box 5340	Santa Fe	87502
Second Mesa Day School	AZ	D65E12	98640	P.O. Box 98	Second Mesa	86043
Sequoyah High School	OK	D08B02	84954	P.O. Box 520	Tahlequah	74465
Shiprock Alternative Schools	NM	N32E13	99257	P.O. Box 1809	Shiprock	87420-1809
Shiprock Northwest High School	NM	N32E15	99262	P.O. Box 1809	Shiprock	87420
Shonto Preparatory School	AZ	N33E16	98674	P.O. Box 7900	Shonto	86054
Shoshone Bannock School District 512	ID	D04P02	209203	P.O. Box 790	Fort Hall	83203
Sicangu Owaye Oti(Rosebud Dormitory)	SD	D07A10	66360	P.O. Box 69	Mission	57555
St. Francis Indian School	SD	D07A09	66385	HCR 59, Box 1A, P.O. Box 379	St Francis	57572
St. Stephens Indian School	WY	D58C10	95223	128 Mission Road, P.O. Box 345	St. Stephens	82524
Standing Pine Elementary School	MS	S78E14	43383	538 Hwy 487 East	Carthage	39051
Standing Rock Community School	ND	D10A08	66929	9189 Highway 24, P.O. Box 377	Fort Yates	58538
Takini School	SD	D01A05	66533	Hwy 34 East Cherry Creek Rd., HC 77, Box 537	Howes	57748
Tate Topa Tribal Grant School (Four Winds)	ND	D09A07	66785	Highway 2, West, P.O. Box 199	Fort Totten	58335
Theodore Jamerson Elementary School	ND	D10A10	66916	3315 University Drive	Bismark	58504
Theodore Roosevelt School	AZ	H52E21	98523	101 Thomas Rd. P.O. Box 567	Fort Apache	85926
Tiospa Zina Tribal School	SD	D09A05	66032	P.O. Box 719	Agency Village	57262
To'Hajilee-He (Canoncito)	NM	D34N25	98923	P.O. Box 3438	Canoncito	87026
Trenton School (Eight Mile #6)	ND	D11A12	207557	P.O. Box 239	Trenton	58853
Tucker Elementary School	MS	S78E15	43571	126 East Tucker Circle	Philadelphia	39350
Turtle Mountain High School	ND	D11A11	66770	Hwy 5, Mail Code H, P.O. Box 440	Belcourt	58316

School Name	State	Location Code	Entity Number	Address	City	Zip Code
Twin Buttes Day School	ND	D11A14	67008	7997 7A Street, NW	Halliday	58636
Two Eagle River School	MT	D13P02	67993	P.O. Box 160	Pablo	59855
Wa He Lut Indian School	WA	D10P13	116077	11110 Conine Avenue, SE	Olympia	98513
White Shield School	ND	D11A15	67090	2 Second Avenue West	Roseglen	58775
Wide Ruins Community School	AZ	D36N24	98811	Hwy 91, P.O. Box 309	Chambers	86502-0309
Winslow Residential Hall	AZ	D36N25	98666	600 N. Alfred Avenue	Winslow	86047-3130
Wounded Knee District School	SD	D06A06	66539	100 Main Street, P.O. Box 350	Manderson	57756
Yakama Tribal School	WA	D11P20	116639	P.O. Box 151	Toppenish	98350

C. SCHOOL NETWORK DESIGNS

The ENAN II network is made up of three Internet gateways; Albuquerque, Phoenix and Sioux Falls. BIE schools connect to the gateways utilizing an FTS2001 procured network. OSPF is the internal routing protocol used on the ENAN II network. BGP is used on the Internet gateways to advertise routes to and from the Internet and control stateful flows of traffic through our Internet gateways and firewalls and also allows for redundancy in the backbone. Security is handled in a layered approach on the ENAN II network, at each gateway there is a PIX firewall, Intrusion Prevention System and an 8e6 Content Filter. Each school router which connects them to the ENAN II network and Internet has an IOS firewall feature set which is enabled on all BIE operated and BIE office routers and most Grant and Contract school routers. External DNS services are provided by the ENAN II network via two external slave DNS servers and a hidden external master DNS server.

Each school has a Cisco Router with IOS firewall feature set which connects them to the ENAN II network and the Internet via T1 or appropriate size circuits to support data, voice and video. The MDF will have at least one Layer 2/3 switch with local 10/100/1000 Mbps Ethernet LAN node connections. Additional Layer 2/3 stackable switches and wiring closet (IDF) trunk connections will be provided as required. Hardware and software redundancy will be provided as required.

VLAN's will be utilized, i.e. Admin VLAN, Staff VLAN, Teacher VLAN, Student VLAN, and VoIP VLAN. Similarly, video conferencing and video streaming over IP via 10/100/1000 Mbps Ethernet LAN connection will be utilized for connectivity within ENAN, i.e. intra-school and inter-school, etc. All data network systems will be provisioned with sufficiently sized UPS backup power in case of commercial power loss.

The choice of location for the school data center (MDF) is in the following order:

- School campus administration building or office.
- Largest K-12 school building or office.

Please note that actual placement is determined by existing or planed service provider facilities, or data network equipment.

School campus data center (MDF) will be housed in a rack with sufficient space to locate equipment necessary for the schools needs. Environmental issues of heat and humidity must be considered in the design. The rack must be grounded. A patch panel will be included to terminate all drops with sufficient space for future growth. Security of the MDF should be provided by using a locked room and a locking rack/cabinet. Use of existing rack equipment, if available, should be considered.

Design considerations for the MDF should be followed for the IDFs. All school campus wiring closets (IDFs) should be connected via multi-mode fiber at 1 Gbps Ethernet or via CAT 5/5e/6/6e cables at 100 Mbps Ethernet using switch trunk port(s) at the wiring closet (IDF) switch to the school campus data center (MDF) switch trunk port(s). All fiber optic cable will be 6 strands or more providing redundant cable pairs. All strands will be terminated. All cabling will meet or exceed the TIA/EIA structured cabling standard.

Cabling in the classrooms and other rooms requiring LAN connections will include sufficient drops to handle current needs and future growth. All drops will be labeled at the wall plate and at the patch panel.

The school campus design will be documented in a 3 ring binder, to include the MDF, all IDFs, equipment list with MFG and Model number, drop number and location. The binder will have room for a trouble log.

Voice Requirements

The BIE does not currently have standardized voice equipment across BIE schools. However, efforts are currently underway to offer standardized platform solutions to schools. This decision will enhance the schools productivity,

ability to communicate, and to gain cost efficiencies in the future. The BIE, under the guidance of the OCIO, is now tactically positioned to implement a voice architecture that will fully support their impending educational programs.

The following major requirements have been identified:

- Unified Communications (voice, video, data, and mobility network applications)
- Standardized voice system so our engineers and technicians can be trained on one platform.
- Separate VLAN for all VOIP traffic with optimal Quality of Service (QOS) strategy deployed for quality voice calls.
- System Management - A Network Management System will be installed and will be utilized by the BIE as well as the local technician to manage the voice system.

Voice Network Architecture

Migration to digital telephone systems and VOIP for the schools continues. This approach permits guaranteed bandwidth within the school as well as provides 99.99% reliability. The systems have the ability to deploy IP telephones and clients and their associated gateways as required.

As change over occurs, each school will be connected utilizing VoIP gateways. The local schools within a defined geographic area will be connected via a “voice” data backbone. These Voice Hub Routers are connected via the ENAN II backbone providing the optimal Quality of Service (QoS) by controlling packet loss, delay, and jitter. The goal is that each BIE School will be able to communicate via the ENAN II network. The user will be able to dial an abbreviated Coordinated Dialing Plan (CDP) number (7 digits) to any other school. The new voice network will either translate the dialed digits into an IP address or convert it to a public number if the data network is unavailable or congested. If a user dials the Public Switched Telephone Network (PSTN) telephone number, the new network will recognize the number dialed and automatically redirect the call over the private network as stated above.

Voice mail services will be deployed at each school. Message waiting indication will be provided to all users of the system either by lighting their message key, an audible sound on their telephone, or by out dialing to a pager. Messages can be networked (composed or transferred) to any voice mail user on the local schools voice network.

Wireless Network Architecture and Security

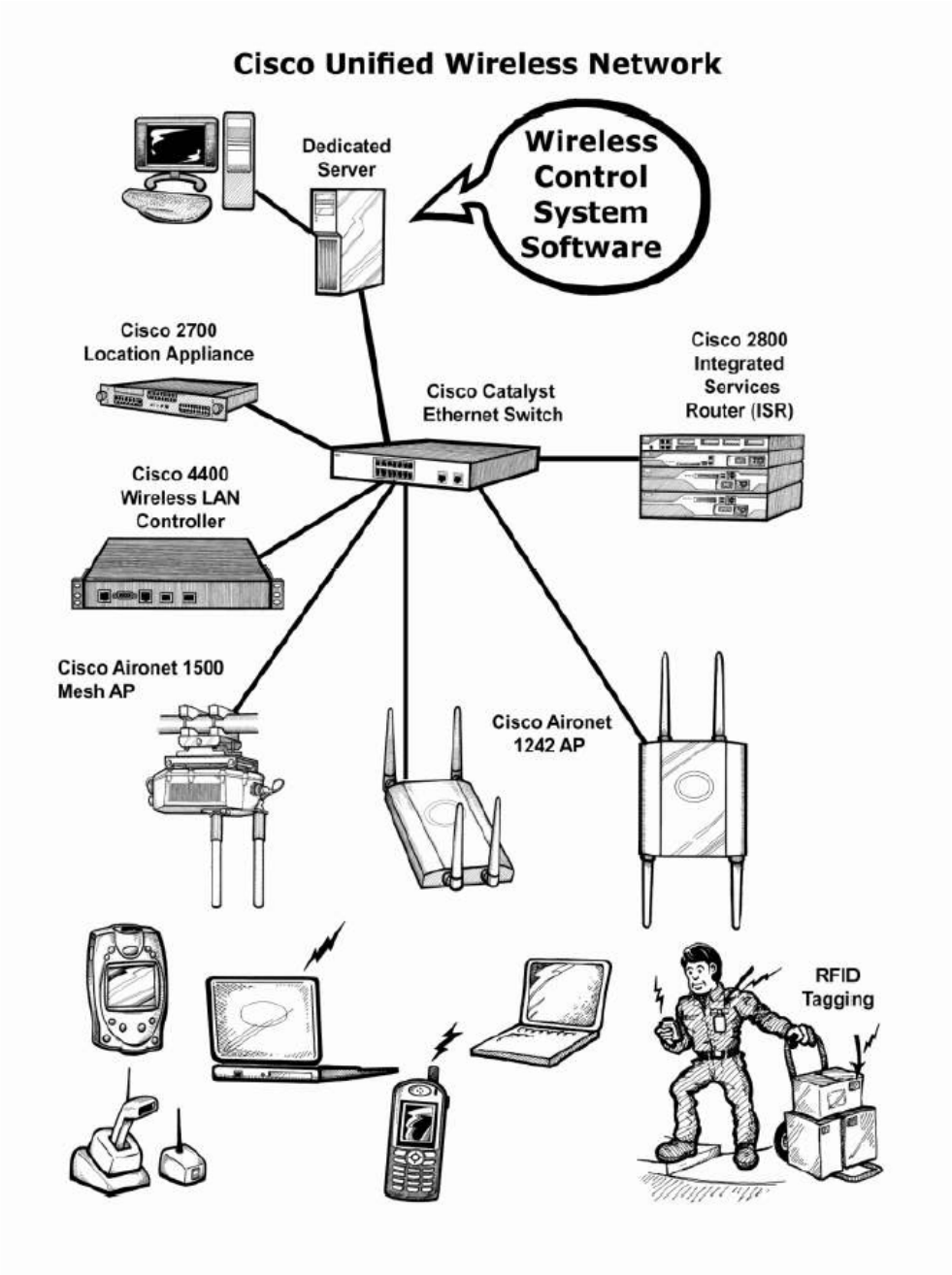
Wireless infrastructure must be robust enough to allow each wireless device to “see” and thus be able to link to a minimum of five (preferably six) portals or wireless transceivers at any location within the buildings. Multiple portals or transceivers need to be able to be deployed in defined areas with no channel conflict experienced. There must be a clear, concise migration path from 802.11b to 802.11a and g with the capability to upgrade to 54 MB speed and beyond without a “forklift” upgrade to the originally deployed infrastructure. All infrastructure components must be able to function at both 2.4 GHz and 5 GHz frequencies simultaneously to insure complete, low-cost migration to faster speeds. Implementation must include the use of a true dual-band, single port antenna architecture, with simultaneous coverage at 2.4 GHz and 5 GHz. The infrastructure must show significant prowess in RF engineering and illustrate the capability and experience to control RF signal propagation to accommodate an increase in device and user population through bandwidth aggregation in defined areas. The entire wireless infrastructure must include the functionality of rogue AP detection and eradication and must include the capability for intrusion detection in all coverage areas.

Wireless LANS (WLAN) provide untethered network communication to students, giving the flexibility of mobility coupled with high throughput. The primary benefit to the education community is user mobility, rapid installations, flexibility and scalability. Because of these inherent features and associated benefits, a significant number of WLAN deployments started taking place before enterprise-class security could be built within the standard. Because BIE schools are government organizations stringent security requirements are required.

Therefore, constraints about what type of wireless devices can be used and the locations where they can be used are in place. An insecure wireless network can open up loopholes in any organizations IT infrastructure. WLAN security for the schools must be treated as a subset of the IT security systems.

Currently the Department of the Interior is working on approving a Wireless Network Policy for the Department and all Bureaus which includes the Bureau of Indian Education. They are looking at multiple vendor solutions but will probably select the Cisco Unified Wireless solution which meets all of the Departmental security requirements.

Figure C-1. Cisco Unified Wireless Network



Cisco Unified Wireless Components

The following section lists the various components in the Cisco Unified Wireless System. Each component has a specific use and not all components will be used

- Cisco Wireless LAN Controller
- Cisco Aironet Access Points
- Cisco Integrated Services Router (ISR)
- Cisco Unified Wireless IP Phone 7921G
- Cisco Wireless Control System (WCS) and WCS Navigator
- Cisco Wireless Location Appliance (CWLA)
- Cisco Catalyst 10/100/1000 Switches (3750 Series Switch)

Once the Wireless Network Policy for the Department of the Interior has been approved schools will be authorized to start using wireless technology within the school but must comply with approved Wireless Security Policies set forth by the Department of the Interior.

Network Access Control (NAC)

NAC allows only compliant and trusted endpoint devices, such as PCs, laptops and servers onto the network, restricting the access of noncompliant devices, and thereby limiting the potential damage from emerging security threats and risks. It is recommended that NAC be deployed at all school campus networks.

School Network Design

Schools will be categorized as small, medium, large or extra large and will use the following design templates (Figures C2-C5) as a guide for network design and hardware. The designs offer higher system availability, improved data confidentiality, industry standard maintainability, reduced maintenance costs, and reduced training costs in comparison to the current typical school designs.

Figure C-2. Sample Small School Campus Data Topology Diagram (less than 96 Users)

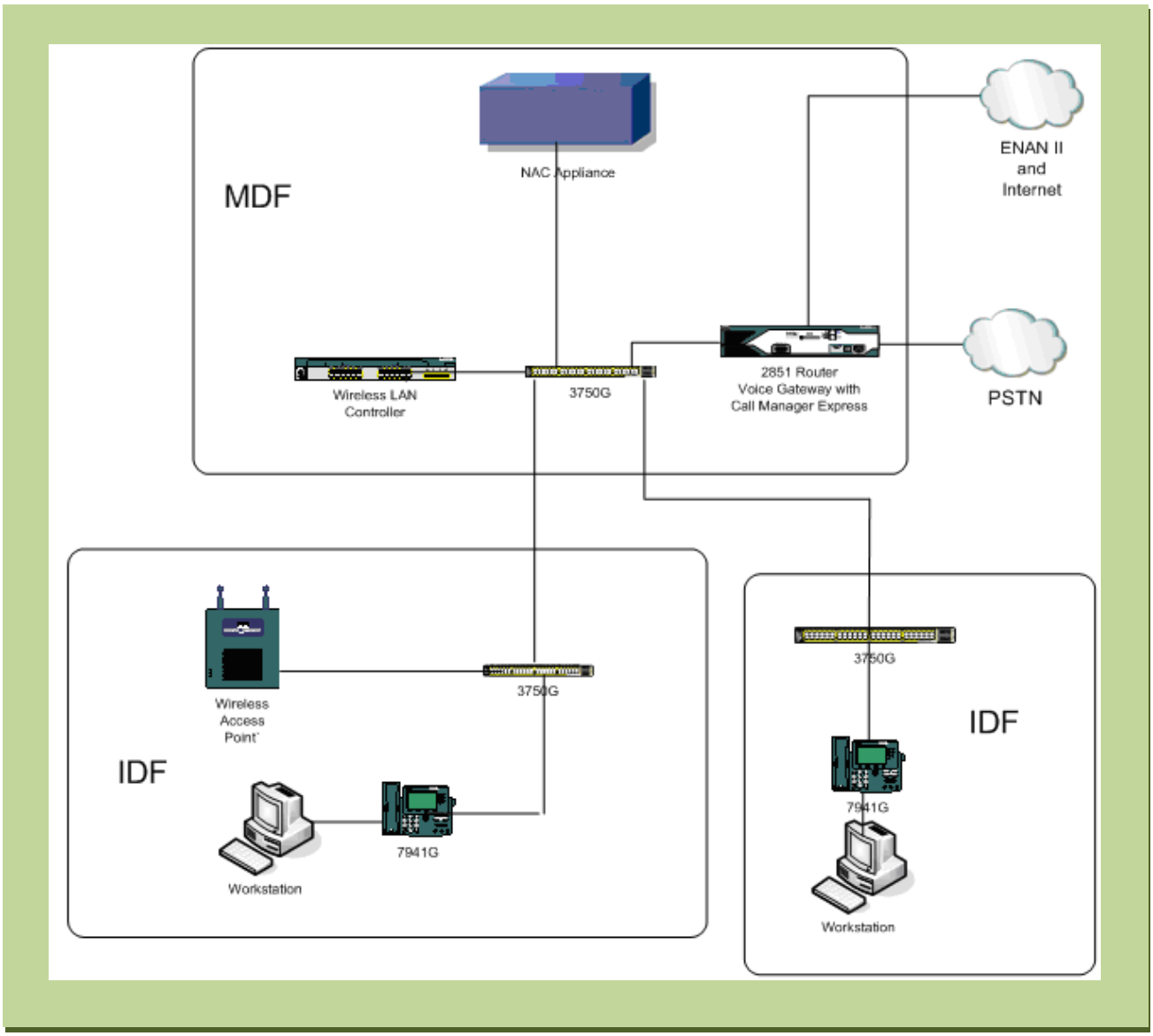


Table C-1. Sample Small School Hardware List

Product Description	Qty
WIRELESS	
4400 Series WLAN Controller for up to 25 Lightweight APs	1
AIR Line Cord North America	1
Cisco Unified WLAN Controller SW Release 4.2	1
Cisco Unified WLAN Controller Emergency SW Release 4.2	1
SMARTNET 8X5XNBD 4402-25 WLAN Controller	1
802.11ag LWAPP AP Dual 2.4,5GHz RP-TNC FCC Cnfg	10
AIR Line Cord North America	10
FIPS Kit for LWAPP APs	10
Pwr Sply In:100-240VAC Out:48VDC 380mA -1100,1130AG,1200,521	10
Cisco 1240 Series IOS WIRELESS LAN LWAPP RECOVERY	10
SMARTNET 8X5XNBD 802.11ag LWAPP AP Dual 2.4 5GHz RP	10
SECURITY	
NAC Appliance 3310 Server Failover Bundle -max 100 users	1
Power Cord,110V	2
NAC Appliance 3310 Server Hardware	2
NAC Appliance Server Release 4.1	2
SMARTNET 8X5XNBD NAC Appliance 3310 S	1
SWITCHES	
Catalyst 3750 48 10/100/1000T PoE + 4 SFP + IPB Image	2
Cisco StackWise 50CM Stacking Cable	2
AC Power cord, 16AWG	2
SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 S	2
IP PHONES	
Cisco IP Phone 7941G-GE, Global, Gig Ethernet	96
CUCM 3.x or 4.x RTU lic. for single IP Phone 7941	96
SMARTNET 8X5XNBD IP Phone 7941, CCME	96
ROUTING	
2851 VSEC Bundle w/PVDM2-48,FL-CCME-96,Adv IP Serv,64F/256D	1
Power Cord,110V	1
Cisco 2800 AISK9-AISK9 FEAT SET FACTORY UPG FOR BUNDLES	1
256 to 512MB DDR DRAM factory upgrade for the Cisco 2851	1
64 to 256 MB CF Factory Upgrade and 256MB USB Flash Token for 2800/3800	1
Cisco Unity Express Network Module Enhanced Capacity	1
Cisco Unity Express base release	1
Unity Express License 100 Voice Mailbox-Auto Attendant-CCME	1
Cisco Unity Express - North American English	1
High density voice/fax extension module - 8 FXS/DID	1

Product Description	Qty
6-port voice/fax expansion module - FXO	1
PVDM2 48-Channel to 64-Channel Factory Upgrade	1
Four-port Voice Interface Card - FXO (Universal)	1
2-Port RJ-48 Multiflex Trunk - T1	1
Device manager for routers	1
Cisco 2821/51 AC power supply	1
64 to 256 MB CF Factory Upgrade for Cisco 2800 Series	1
256MB USB Flash Token for Cisco 1800/2800/3800 series	1
Cisco Call Manager Express Feat License For Up To 96 Users	1
SNT 8X5XNBD + SAU 2851 Voice Bundle	1

Table C-3. Sample Medium School Campus Data Topology Diagram (up to 196 users)

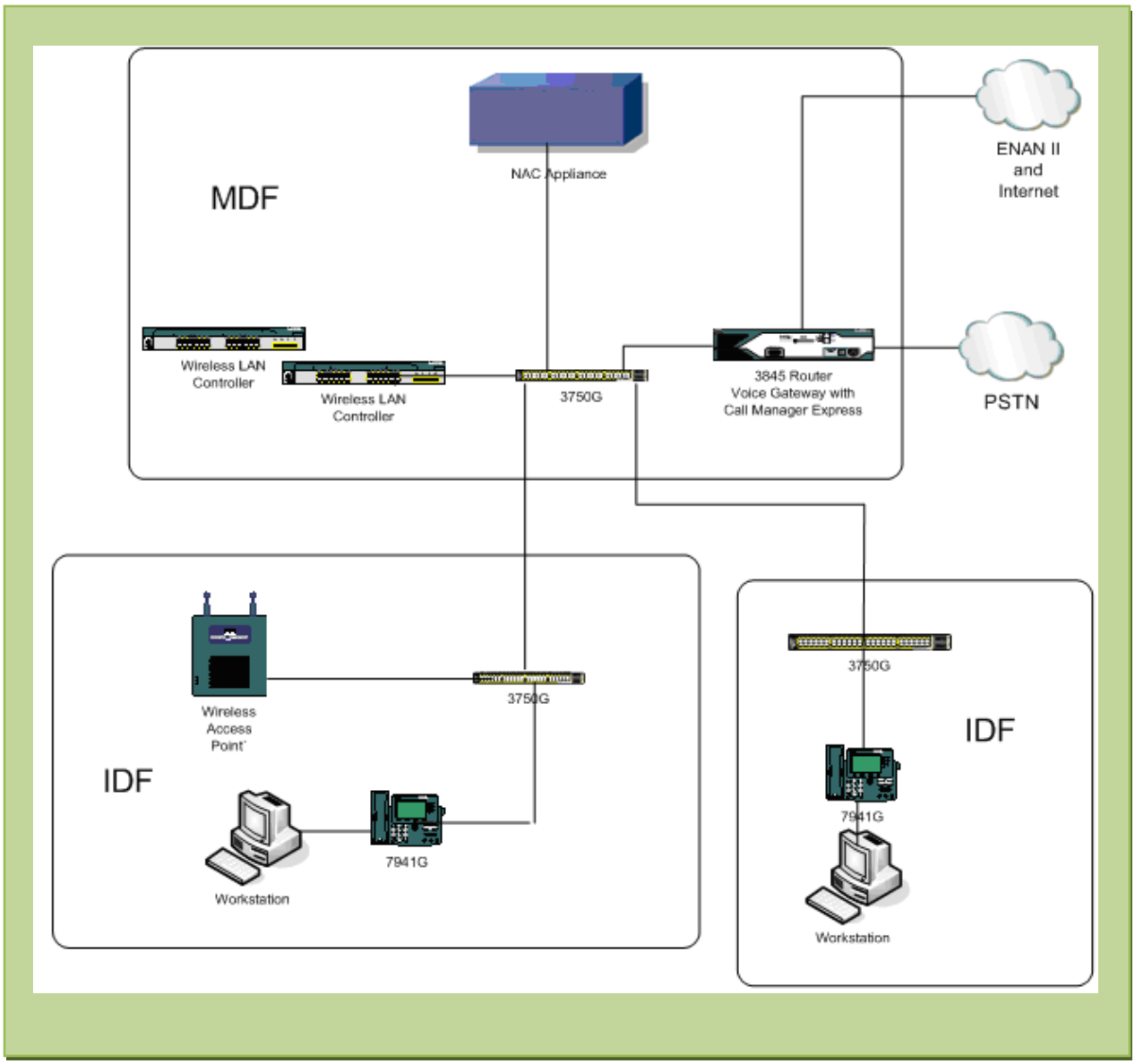


Table C-2. Sample Small School Hardware List

Product Description	Qty
WIRELESS	
4400 Series WLAN Controller for up to 25 Lightweight APs	2
AIR Line Cord North America	2
Cisco Unified WLAN Controller SW Release 4.2	2
Cisco Unified WLAN Controller Emergency SW Release 4.2	2
SMARTNET 8X5XNBD 4402-25 WLAN Controller	2
802.11ag LWAPP AP Dual 2.4,5GHz RP-TNC FCC Cnfg	20
AIR Line Cord North America	20
FIPS Kit for LWAPP APs	20
Pwr Sply In:100-240VAC Out:48VDC 380mA -1100,1130AG,1200,521	20
Cisco 1240 Series IOS WIRELESS LAN LWAPP RECOVERY	20
SMARTNET 8X5XNBD 802.11ag LWAPP AP Dual 2.4 5GHz RP	20
SWITCHING	
Catalyst 3750 48 10/100/1000T PoE + 4 SFP + IPB Image	4
Cisco StackWise 50CM Stacking Cable	4
AC Power cord, 16AWG	4
SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 S	4
IP PHONES	
Cisco IP Phone 7941G-GE, Global, Gig Ethernet	196
CUCM 3.x or 4.x RTU lic. for single IP Phone 7941	196
SMARTNET 8X5XNBD IP Phone 7941, CCME	196
ROUTING	
3845 VSEC Bundle w/PVDM2-64,FL-CCME-240,Adv IPServ,128F/512D	1
Cisco 3845 AISK9-AISK9 FEAT SET FACTORY UPG FOR BUNDLES	1
Power Cord,110V	2
Cisco3845 redundant AC power supply	1
512 to 768MB DRAM factory upgrade for 3800 VSEC	1
128 to 256MB CF factory upgrade for 3800 VSEC bundles	1
256MB USB Flash Token for Cisco 1800/2800/3800 series	1
High density voice/fax extension module - 8 FXS/DID	1
Cisco Unity Express Network Module Enhanced Capacity	1
6-port voice/fax expansion module - FXO	1
Cisco Unity Express base release - 2.3	1
Unity Express License 200 Voice Mailbox-Auto Attendant-CCME	1
Cisco Unity Express - North American English	1
Four-port Voice Interface Card - FXO (Universal)	1
1-Port RJ-48 Multiflex Trunk - T1	2
VoiceXML Feature License Up To 12 Sessions	1
Device manager for routers	1
Cisco 3845 AC power supply	1
Cisco CallManager Express Feat License Up To 240 Phones	1

Product Description	Qty
64-Channel Packet Voice/Fax DSP Module	1
SNT 8X5XNBD + SAU 3845 Voice Bundle	1
SECURITY	
NAC Appliance 3310 Server Failover Bundle -max 250 users	1
Power Cord,110V	2
NAC Appliance 3310 Server Hardware	2
NAC Appliance Server Release 4.1	2
SMARTNET 8X5XNBD NAC Appliance 3310 S	1

Table C-4. Sample Large School Campus Data Topology Diagram (up to 240 users)

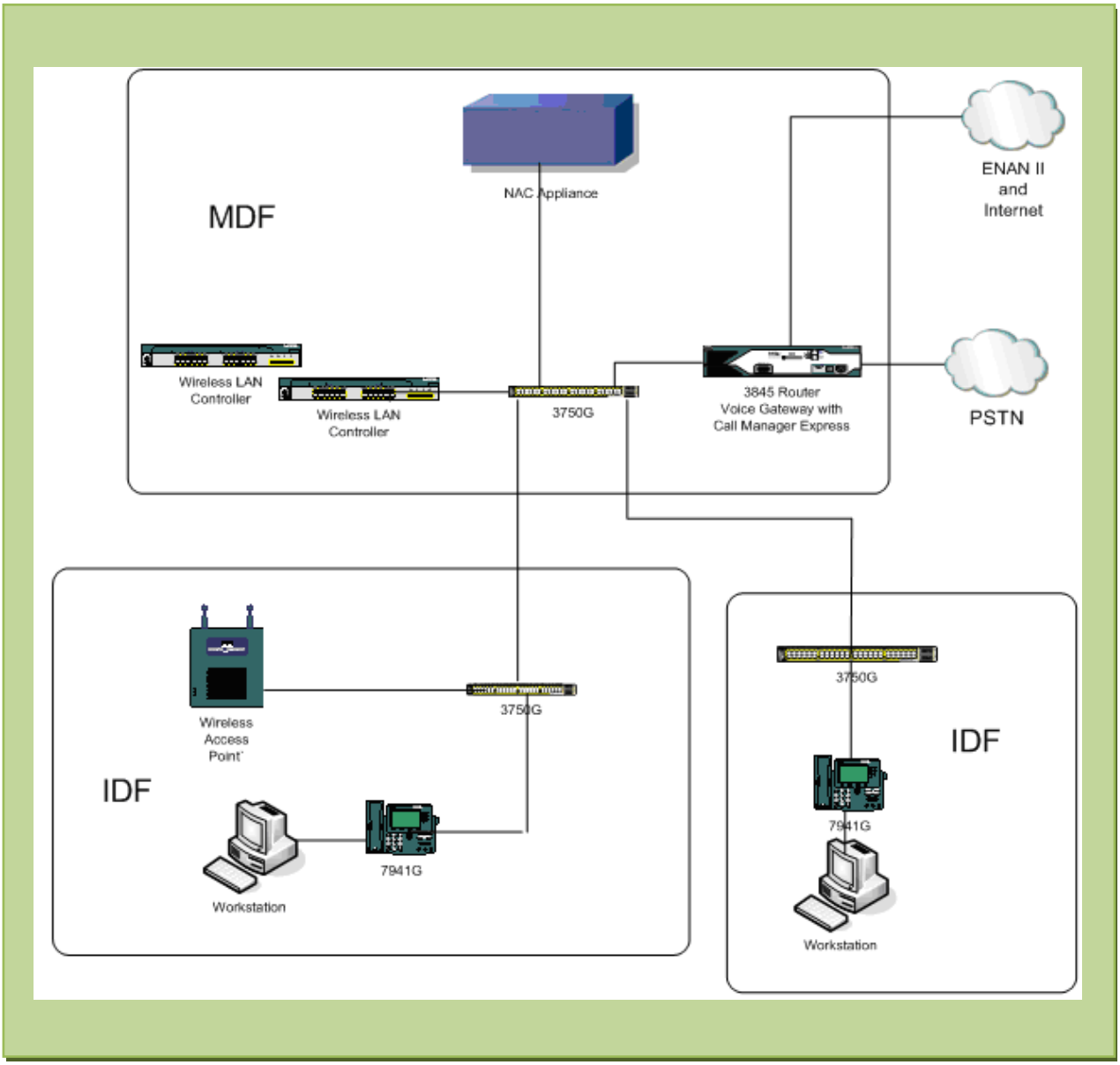


Table C-3. Sample Large School Hardware List

Product Description	Qty
WIRELESS	
4400 Series WLAN Controller for up to 50 Lightweight APs	2
AIR Line Cord North America	2
Cisco Unified WLAN Controller SW Release 4.2	2
Cisco Unified WLAN Controller Emergency SW Release 4.2	2
SMARTNET 8X5XNBD 4402-50 WLAN Controller	2
802.11ag LWAPP AP Dual 2.4,5GHz RP-TNC FCC Cnfg	20
AIR Line Cord North America	20
FIPS Kit for LWAPP APs	20
Pwr Sply In:100-240VAC Out:48VDC 380mA -1100,1130AG,1200,521	20
Cisco 1240 Series IOS WIRELESS LAN LWAPP RECOVERY	20
SMARTNET 8X5XNBD 802.11ag LWAPP AP Dual 2.4 5GHz RP	20
SWITCHING	
Catalyst 3750 48 10/100/1000T PoE + 4 SFP + IPB Image	5
Cisco StackWise 50CM Stacking Cable	5
AC Power cord, 16AWG	5
SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 S	5
IP PHONES	
Cisco IP Phone 7941G-GE, Global, Gig Ethernet	240
CUCM 3.x or 4.x RTU lic. for single IP Phone 7941	240
SMARTNET 8X5XNBD IP Phone 7941, CCME	240
ROUTING	
3845 VSEC Bundle w/PVDM2-64,FL-CCME-240,Adv IPServ,128F/512D	1
Cisco 3845 AISK9-AISK9 FEAT SET FACTORY UPG FOR BUNDLES	1
Power Cord,110V	2
Cisco3845 redundant AC power supply	1
512 to 768MB DRAM factory upgrade for 3800 VSEC	1
128 to 256MB CF factory upgrade for 3800 VSEC bundles	1
256MB USB Flash Token for Cisco 1800/2800/3800 series	1
High density voice/fax extension module - 8 FXS/DID	1
Cisco Unity Express Network Module Enhanced Capacity	1
6-port voice/fax expansion module - FXO	1
Cisco Unity Express base release - 2.3	1
Unity Express License 250 Voice Mailbox-Auto Attendant-CCME	1
Cisco Unity Express - North American English	1
Four-port Voice Interface Card - FXO (Universal)	1
1-Port RJ-48 Multiflex Trunk - T1	2
VoiceXML Feature License Up To 12 Sessions	1
Device manager for routers	1
Cisco 3845 AC power supply	1
Cisco CallManager Express Feat License Up To 240 Phones	1

Product Description	Qty
64-Channel Packet Voice/Fax DSP Module	1
SNT 8X5XNBD + SAU 3845 Voice Bundle	1
SECURITY	
NAC Appliance 3310 Server Failover Bundle -max 250 users	1
Power Cord,110V	2
NAC Appliance 3310 Server Hardware	2
NAC Appliance Server Release 4.1	2
SMARTNET 8X5XNBD NAC Appliance 3310 S	1

Figure C-5. Sample Extra Large School Campus Data Topology Diagram (240 + users)

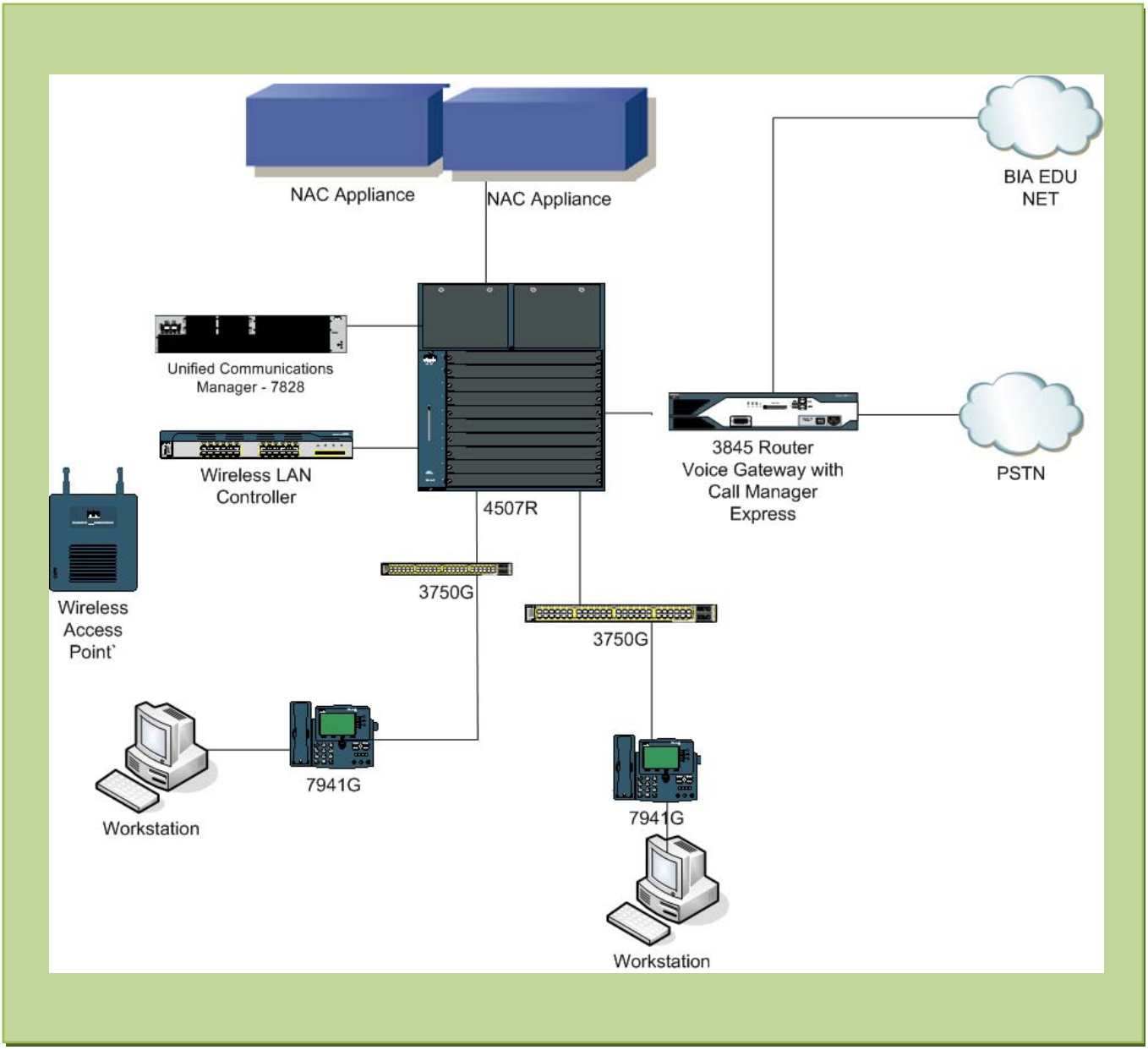


Table C-4. Sample Extra-Large School Hardware List

Product Description	Qty
WIRELESS	
4400 Series WLAN Controller for up to 50 Lightweight APs	2
AIR Line Cord North America	2
Cisco Unified WLAN Controller SW Release 4.2	2
Cisco Unified WLAN Controller Emergency SW Release 4.2	2
SMARTNET 8X5XNBD 4402-50 WLAN Controller	2
802.11ag LWAPP AP Dual 2.4,5GHz RP-TNC FCC Cnfg	30
AIR Line Cord North America	30
FIPS Kit for LWAPP APs	30
Pwr Sply In:100-240VAC Out:48VDC 380mA -1100,1130AG,1200,521	30
Cisco 1240 Series IOS WIRELESS LAN LWAPP RECOVERY	30
SMARTNET 8X5XNBD 802.11ag LWAPP AP Dual 2.4 5GHz RP	30
SWITCHES	
Catalyst 3750 48 10/100/1000T PoE + 4 SFP + IPB Image	5
Cisco StackWise 50CM Stacking Cable	5
AC Power cord, 16AWG	5
SMARTNET 8X5XNBD Cat 3750 48 10/100/1000T PoE + 4 S	5
IP PHONES	
Cisco IP Phone 7941G-GE, Global, Gig Ethernet	240
CUCM 3.x or 4.x RTU lic. for single IP Phone 7941	240
SMARTNET 8X5XNBD IP Phone 7941, CCME	240
SECURITY	
NAC Appliance 3310 Server Failover Bundle -max 500 users	1
Power Cord,110V	2
NAC Appliance 3310 Server Hardware	2
NAC Appliance Server Release 4.1	2
SMARTNET 8X5XNBD NAC Appliance 3310 Srvr failover500users	1
CORE SWITCH	
Cat4500 E-Series 7-Slot Chassis, fan, no ps, Red Sup Capable	1
Catalyst 4500 E-Series 48-Port Premium PoE 10/100/1000	1
Catalyst 4500 E-Series 48-Port Premium PoE 10/100/1000	1
Catalyst 4500 E-Series Sup 6-E, 2x10GE(X2) w/ Twin Gig	1
Catalyst 45xxR E-Series Sup 6-E, 2x10GE(X2) w/ Twin Gig	1
Catalyst 4500 Enhanced 48-Port 10/100/1000 Base-T (RJ-45)	1
Cisco CAT4500E IOS IP BASE SSH	1
Catalyst 4500 2800W AC Power Supply (Data and PoE)	1
Catalyst 4500 2800W AC Power Supply (Data and PoE)	1
U.S. Power Cord, Twist Lock, NEMA 6-20 Plug	2
Cat 4500 IOS-based Supervisor, Compact Flash, 128MB Option	1

Product Description	Qty
Cisco TwinGig Converter Module	2
Cisco TwinGig Converter Module	2
SMARTNET 8X5XNBD WS-C4507R-E	1
UNIFIED COMMUNICATIONS	
Unified Communication Manager 6.X - Bus Ed - Top Level	1
Unified CM BE, 7828-I3 appliance, 50 seats	1
Power Cord,110V	1
Unified Com Mgr BE - Seat Licenses - 50	9
Unified CM Device License - 10 units	50
One Unity Cxn Advanced Option - ASR, TTS,	500
VPIM networking for Unity Connection	1
5 Seat CCX ENH CCM Bundle - AVAILABLE ONLY WITH CCM	1
Unified CM RTU claim certificate	1
Cisco Unified CM 6.X PAK	1
Cisco Unified CM 6.X users	1
Unified CM Device License - 10 units	50
Unified Presence 6.0 Software - available with CCM	1
Unity Connection Activation Key	1
Unity Connection User Mailboxes	500
SMARTNET 8X5XNBD Top Level-Order Svc for Each Indiv Comp	1
Top level for Unified CM, Bus Ed SW Subscription	1
UCSS For Unified CM BE For 1 Year - 50 Users	10
ESSENTIAL SW 5 Seat CCX STD CCM Bndl-AVAILABLE ONLY WITH CCM	1
ESSENTIAL SW Cisco Unified CM 6.X users	1
ESSENTIAL SW Top Level-Order Svc for Each Indiv Comp	1
ESSENTIAL SW Unified Presence 6.0 sw-available with CCM	1
SPARE HDWE - UNIFIED COMMUNICATIONS	
Cisco MCS 7828-H3 HW Only Service Spare	1
Power Cord,110V	1
SMARTNET 8X5XNBD Cisco MCS7828-H3 HW Only Svc Spare	1

D. eRate Program Overview

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Overview

- Purpose of tech plans
- Basic tech plan requirements
- The five elements of a tech plan tech plan reviews
- Tech plan statistics
- Tech plan scenarios

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Purpose of Tech Plans

- A tech plan is a written document that describes the technologies and associated resources - existing and planned - that will assist a school to provide educational services or a library to provide library services.

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Purpose of Tech Plans

- Tech plans should address the'se questions:
  - What are my goals for using technology?
  - What resources do I have now?
  - What resources will I need?
  - How will I pay for or provide these resources?
  - How will I maintain these resources?
  - How will members of my staff be trained to use these resources effectively?
  - How will I know if I am accomplishing my goals?

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Purpose of Tech Plans

- Tech plans
- Ensure that schools and libraries plan for technology and can use it effectively to provide educational or library services
- Should support and validate the services requested on Forms 470/471
- Contain a level of detail appropriate to the size and complexity of the entity
- Provide a complete picture of the entity's uses of technology (not just E-rate services)

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Purpose of Tech Plans

- FCC rules require tech plans for more than basic telephone service, such as
  - High-speed telecommunications links (T-1, T-3, OSDN)
  - Centrex
  - PBXs
  - Internet access
  - Internal connections and basic maintenance of internal connections

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Basic Requirements

- Tech plans must:
  - Be created before Form 470/RFP posting
  - Cover all 12 months of the funding year
  - Contain all five elements
  - Contain a sufficient level of detail to validate the E-rate request
  - Be approved by a USAC-certified Technology Plan Approver (TPA) before Form 486 is filed or services start, whichever is sooner
  - In general, cover not more than 3 years

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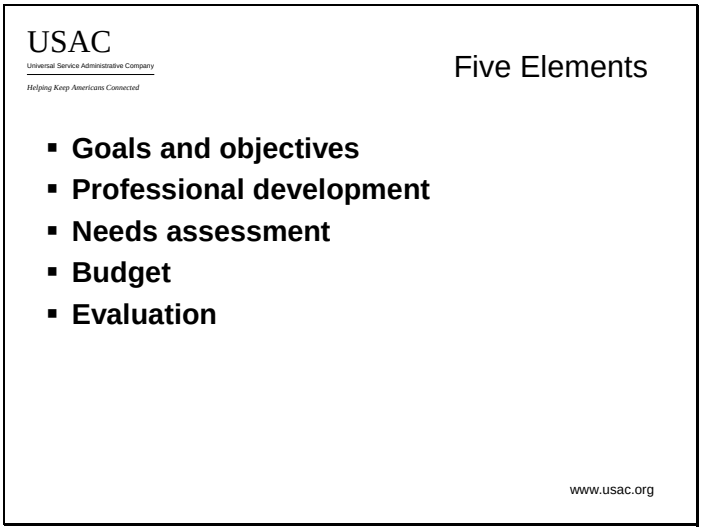
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Five Elements
Goals and objectives
Professional development
Needs assessment
Budget
Evaluation
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